UMASS/AMHERST
312066005805550

UNIVERSITY OF MASSACHUSETTS · 1863

DATE DUE

UNIV. OF MASSACHUSETTS/AMHERST
LIBRARY

S
74
H3
H2
1870-
74

TRANSACTIONS

OF THE

Hampshire Agricultural Society,

WITH THE LIST OF

OFFICERS AND NEW MEMBERS.

List of Premiums awarded, Professor Parker's Address, Treasurer's Report, Committees' Reports, &c.,

For the year 1870.

AMHERST:
STORRS & McCLOUD, BOOK AND JOB PRINTERS.
1870.

LIBRARY
UNIVERSITY OF
MASSACHUSETTS
AMHERST, MASS.

630.06
H19
1870-74

Massachusetts Agricultural College.

WOMAN AND HOME SCIENCE.

ABSTRACT OF ADDRESS

BY

Prof. H. W. PARKER, of the Mass. Agricultural College.

If science be good outside of the farm-house, why not inside? If it be a blessing in agriculture, why not in that which may be termed *domiculture*—the great art, the hundred arts, of housekeeping? This has been acknowledged indirectly in our agricultural Fairs, much of the interest of which depends on the lady-exhibitors.

Such an application of science is especially important to the farmer's wife, not only because she has peculiar work to do, but because she only—with few exceptions—is supposed to have strength and wisdom to do her own housekeeping,—is not helplessly dependent on Celt or Chinaman.

Home Science is an appropriate study for woman, and certainly would be a great aid and joy to her in her toil. The daily round of in-door work is often felt to be discouraging and degrading. Life seems to be wasted in endless cooking, scouring, mending. High aspiration is quenched in a sea of dish-water. And every occupation must be degrading where there is not a noble participation in it of the mind and soul.

There is such a science. Knowledge so applied is brought to

view in various books. And there are special volumes, such as "Chemistry of Common Things," "Familiar Science," and one entitled "Household Science," a book of 470 pages, treating of light, heat, vision, and colors; air and ventilation; food, its principles, forms, preparation, preservation, effects and nutritive value; cooking utensils; cleansing processes; and, finally, of poisons. To such a book should be added volumes on domestic medicine, physiology, household architecture, gardening, insects, the education of children, and the beautiful arts. A few books, however, are of comparatively little avail, without systematic education and laboratory practice. Few have the genius to educate themselves.

The common objection to everything of the kind is, that practical knowledge is enough, without book-knowledge. Some one may say: "All this science is stuff; my grandmother did not know *ox*ygen from stearine; she did not know 'sal soda' from 'sal ammonium,' or any other Sally; but she could cook such dough-nuts as you never saw." A sufficient answer to the excessively practical people is the instance of the doctor who killed a fever patient with codfish, because another fever patient had secretly partaken of the same and recovered. It was a very practical inference he drew. Of course, science alone will not make a housekeeper. It will not make a physician. The medical student needs to practice with an old expert, as well as to attend lectures and read books.

Another objection is, that much of this science is but the learning of hard names for common things. It may be said, why not know pearlash and saleratus simply as such, not as carbonate and bicarbonate of potash? The answer is that potash is a powerful alkali; it must be injurious, in considerable quantities; and the same, to a less degree, is true of soda. If the right names were used, what lady would have the face to say to her guests: "Shall I help you to some potash bread, or potash cakes?" Scientific knowledge is a knowledge of things and their action.

First, therefore, a scientific *in-door* agriculture, would save us from many hurtful practices. The use of fine flour, from which the phosphates have been removed by bolting, is another example.

Secondly, scientific knowledge would influence us to carry out the floating knowledge we already have. We do not feel a truth, and act upon it, till we thoroughly know it. We know, for instance, that the effluvium rising from the waste-pipe of the kitchen sink, is noxious, and so likewise when the sink-washings discharge into the open air near a house; we half-know that all this can be remedied

by a closed drain and closed cess-pool, with a pipe leading from the drain to a chimney, whereby all foul air is removed, the kitchen admirably ventilated, and cholera sent up chimney like a witch on a broomstick. But who, unless interested in science, ever acts on such a suggestion? So in respect to the whole vital subject of ventilation, and the entire sanitary condition of the house. It is a singular fact that farmers' families, which should be the healthiest, are as subject to sickness as any other households, especially to fevers,—perhaps from the inattention which seemingly robust health gives to sleeping-room ventilation, and the fact that there is much decaying or drying vegetable matter in the cellar and around the barn.

Woman, too, if properly enlightened, would have the wisdom and influence to carry reform into public assembly rooms, school-houses, and our abominable winter railroad cars, where you are exposed to extremes of heat and cold, to vile floors, and the litter that follows in the wake of apple-and-pea-nut peddlers, to whom the cars seem to be rented as groceries. Man, less sensitive to litter and nauseating air, will never move in the matter, it is plain. Railroad conductors, in particular, must be set down as "bad conductors of heat." We must wait for the Coming Scientific Woman.

Thirdly, we are thus led to see that this study is imperative on woman because she is the physician of the family. To illustrate: there is that boy or girl reading at a distance of ten feet from the lamp. His unscientific mother does not notice it; or perhaps she learned at school the law that light decreases as the square of the distance, with no idea that it had any household application. The rightly educated mother at once sees that, at ten feet distance, the light is twenty-five times less than at two feet. Again, in all probability, there is a child facing the light, the pupil of the eye contracted, and the page of the book in shadow. If health depends at times more on the doctor's ministrations, these are more rare. Woman is really the family physician, and the whole Board of Health.

Fourthly, science would facilitate home work and improve the great art of living. Mrs. Stowe rightly asserts that housekeeping should be elevated to the rank of a profession, and be thought worthy of a course of study. She says: "Women study treatises on political economy in schools; and why should not the study of domestic economy form a part of every school course? If it be thought worth while to provide at great expense apparatus for

teaching the revolutions of Saturn's moons and the precession of the equinoxes, why should there not be some to teach what it may greatly concern a woman's earthly happiness to know?"

I hope a Professorship of Domestic Economy will be established in the Massachusetts Agricultural College, for the benefit of the many young women who will ere long claim the advantages of that institution, especially the excellent facilities it offers for the study of chemistry, botany and horticulture. Woman has a right to all educational advantages. On the opening day of the noble Agricultural College of Iowa, a large number of ladies were received among the pupils, and no harm has come of it yet. At the West the co-education of the sexes is no longer an experiment. It is fully proved that it promotes a higher tone of study, of mind, manners and morals, than can be found in our old protestant monasteries and nunneries. Even old England is getting ahead of New England on this subject. It is all very well for us to be slow and sure, but there is no merit in being as slow as the farmer's horse, who had but one fault,—he was "as slow as cold molasses." Our extreme conservatism, however, may be "not a fault but a misfortune," as in the instance of the consumptive horse that was sold as being without a fault.

Certainly, this study will smooth and bless home life. The scientific housekeeper, for reasons she understands, never, for example, washes cotton or linen in hard water, and she can soften water in a variety of ways, if it be hard; she knows how to detect an excess of silicate of soda in the soap invented after the war had cut off the supply of South Carolina rosin; she never uses rosin-soap for woollen; and she can remove all kinds of spots and stains by using the proper class of solvents. Having made her own indellible ink by dropping a piece of silver into a penny-worth of nitric acid, she removes an accidental drop of it from the table cloth by using a pinch of moistened common salt, that turns the blot to chlorid of silver, which can be dissolved with a drop of ammonia. And she never forgets how to do anything, or loses a good hint, because she knows the whole simple philosophy of the matter.

And, with such intelligent housekeepers, there would be progress in the art. The fact that your grandmother's doughnuts have never been excelled, proves that housekeeping has made no advance, and hence that science needs to be applied to this in education. Woman is intuitive and therefore would be inventive, were she not left to believe that her work is mere routine drudgery. It is reported that

a poor apple-woman in New York invented the paper strings now in common use. The rightly educated woman could at least appreciate and apply all good inventions, and reject the many foolish ones hawked about the country. She would have the mechanical knowledge, too, necessary to keep all household machinery in good order, and so be saved from much vexation.

But some one may say, the difficulty is not so much in needed facilities, as in the slavish nature of the work. This leads me to remark in the next place, that home science would dignify and inspirit, yes, glorify, the drudgery of household toil. Chemistry is kitchen work, dish-work and dish-washing; yet, not for a moment does the chemist feel degraded or weary. The science transmutes the glass to crystal, the iron to gold, the labor to lofty play. The Emperor of Brazil has his laboratory, where he does this chemical work. And what is all kitchen work but chemistry?

A thing of science, like "a thing of beauty, is a joy forever." A drop of water falls on the hot stove. The good housewife, who is an unthinking drudge, does not notice it, or she only says to herself—"La, sakes! how hot that stove is!" The drop, still round, rolls along the stove and dances, till it rolls off. Why did it not change to vapor at once? Because the heat converts its outer particles into a cushion of steam, on which it rests. How is that? Each outside particle of water, changed to steam, flies off with such energy that its recoil holds up the drop. Let it roll to a part of the stove less hot; it sinks down flat and is wholly transformed to vapor. This drop suggests a thousand wonders, and the entire amazing theory of heat, as recently demonstrated by men of science.

Hence, further, if our housewife, in her kitchen laboratory, has a devout spirit, she is exalted by continual suggestions of the Great Divine Cause. As quaint George Herbert wrote two hundred years ago:

> "A servant, with this clause,
> Makes drudgery divine:
> Who sweeps a room, as for Thy laws,
> Makes that, and th' action, fine."

And the new discoveries of science would ever freshen the eternal freshness of scientific work. In beets, in tea and coffee, the comparatively new metal, Rubidium, has been detected by that marvellous spectrum analysis which shows us the metals that exist in the sun, and in the far-off fixed stars—even detects nitrogen in a comet and sodium in a shooting star. So, also, the recent doctrine

of dialysis, while applied to so humble a use as the separation of meat-brine into pure salt and excellent soup, at the same time explains one of the profound mysteries of animal and vegetable life.

Woman's happiness, moreover, would be negative as well as positive. Ignorance is full of fear and disgust towards innocent things. That odorous fermenting pail-full of waste from the table is really an interesting mixture of many acids and bases, entering into new combinations. That dreadful spider is not poisonous, and has eight jewels of eyes in his head. That medicine is no more a metallic poison than the oxidized metal, lime, which makes your bones. "Do not be afraid of dirt, young gentlemen," said a distinguished medical professor; "dirt makes bread, and bread makes the lips you kiss."

Our lady bachelor of science would likewise have the pleasure of exact economy in the use of materials. Woman, naturally, is impulsive. If she thinks the biscuit requires more soda, she throws in enough to neutralize a gallon of the acid in the milk,—"There, I'll see if I can't make that biscuit right this time!" Whether it be impulsiveness or ignorance, it would be rectified by knowing the exact proportions in which all substances combine. At least, there would be knowledge enough to use a bit of cheap test-paper, as the chemist does, to know exactly when an acid is neutralized.

And the exactness of nature teaches habits of neatness, carefulness, attention. Scientific work is the most nice and precise of any in the world, and inevitably affects all habits.

But this is not all. There is an element of moral illustration, often humorous, that would be enjoyed by the scientific housekeeper. There is a tragedy in a loaf of bread. Gluten is a gummy weak-minded individual, having too much nitrogen in his composition, and exists in flour, hence in dough. He is easily demoralized by the least association with that restless son of a brewer, Yeast, or with that destructive rogue, Oxygen. And when Gluten loses what little stability he has, his example at once affects the sweet children of the Sugar family, also present in the dough, until they become as ungovernable as alcohol and carbonic acid,—in fact, are changed into these. But Gluten maliciously holds them as they struggle to get away; and at last Heat comes on with a vengeance, and, striking Gluten stiff for his mischief, drives *them* away from their bread, and so they go to bed supperless, because they have been in bad company. That is the way bread is raised; and the scientific housewife would be able to tell her children the edifying story.

The young lady who wastes her time in reading novels, might find a salutary romance in a soda-biscuit. Soda is a giddy girl who accepts the society of that respectable youth, Carbonic Acid, he being chiefly engaged in the limestone business, though also a worthy agriculturist, raising plants. In a biscuit pic-nic, she—Soda—first meets Tartaric Acid, who is a dissipated person, known to be found around wine-casks. She forsakes Carbonic for Tartaric, and finds that she has caught a Tartar. Surely, our lady-chemist would be better occupied in prying into the doings of Soda, Gluten and the rest, than in gossiping about her neighbors' affairs.

This word "gossip" suggests another reason for the pursuit of Home Science. It would lift the whole matter of housekeeping above the low level of idle talk about housekeeping itself. What everlasting table-talk on this subject do we hear, of a sort no more elevated than that which geese indulge in over a dinner of pollywogs. Perhaps a quarter of an hour is spent in discussing the price of sugar, and telling where this or that person buys sugar, whether at White & Co's or Brown & Co's, and who does like sugar in tea and who doesn't, and whose aunt does and whose doesn't. Now, what an infinite fund of thought and interest there is in sugar, its sources, manufacture, chemical varieties, physiological effects—the last point suggesting a series of experiments recently made on the muscle-forming value of non-nitrogenous food, disproving the doctrine of our text-books. What entertainment in the thought that sugar and starch are simply the forms in which we, human locomotives, take our coal and water.

Indeed, here is the great argument for the scientific education of farmers and their wives—that it will lift *them* above the low level of thoughtless life, whether or not it brings money into their pockets. Their minds are the soil that most needs cultivation—their brains the bread that most needs to be raised.

However, there is one weighty consideration that alone should recommend the study of science in this connection, namely, health. Health is physical happiness. With strength enough, there is no such thing as hard work. Our philosophic housekeepers would secure greater vigor in a thousand ways—dress, diet, ventilation, etc. Take a single illustration—moisture in the air. They would be able at once to determine the amount, and thus would know whether an evaporating pan is advisable, in the stove or furnace,—would not be left to any writer's unqualified recommendation or condemnation of this expedient. In the kitchen, they could have a large hood over

the cook-stove, to carry off the excessive vapors and fumes which saturate the air, cloy the appetite, and prevent the healthy invisible perspiration, which may be even fatally arrested while one seems to be in profuse perspiration.

Why is it that our women are often overtasked and broken down in health? Is it not in part through ignorance, such as that now indicated, and, above all, through lack of real interest and spirit in work—the degrading and dispiriting nature of all labor that is pursued mechanically, with no lively participation of intellect and soul, especially if it be confined in-door toil, and with no end in view but the finishing of a day's task. There must be fresh air, and either an intellectual or a money interest, to keep up one's vigor and spirit. All this woman lacks for the most part, as things are. She has nothing but affectional motives, and these are often chilled and disappointed.

In the good time coming, we shall have a thousand professors of home science, and hundreds of thousands of lady-graduates from our scientific schools. And it shall be said of the virtuous woman, "she openeth her mouth with wisdom." She maketh no fire in summer, but boileth her water in ten minutes by agitation in a vessel turned by a wind-mill, after the manner of Prof. Tyndall, in his hand experiment. She buyeth condensed extract of meat and milk, and never seeth steak or milk-pan. She sendeth her linen to the steam wash-house. She scoureth her wood-work with her own patent revolving spring-brush. She useth enameled paper plates and cups, like paper collars, and throweth them away after every meal. She analyseth sugar-candy, and findeth deadly coloring matters, as red oxide of lead and yellow sulphide of arsenic; and she bringeth the confectioner before the lady-justice of the peace. She discardeth all but loose dress, and sweepeth not the streets. Her bonnet is visible and protecteth from the sun. She inventeth a steam-cook and an electric chamber-maid, like unto the steam-man that draweth a chariot.

But who can anticipate the future? Certain it is that science, which is but a more thorough knowledge, will be carried into everything, and will not be shut out from our homes nor denied to any human being.

Report on Mechanic Arts.

Among the departments fostered by our Society, there exists, in our opinion, none more important than that of Mechanic Arts. Important alike to the farmer and his wife, to the gentleman and lady of whatever fortune. The machine, the thing made, will ever be of especial interest to makers. That form floating in his mind, vague and limitless, the inventor with unwearied effort has modelled in iron and wood. Human hands have wrought the parts. Human hands connected them. The whole is an organism, in which latent forces appear and operate, or power applied is modified in many ways and made surprisingly effective. The novelty is of human origin and all humanity will come to view it, to see how industry is quickened, and the possibilities of life enlarged.

Fortunately the inventor is quite ready to exhibit. Here there is common interest, a mutual warmth of feeling. This is that which makes the mechanic's Fair a pleasure to all, a welcome necessity.

And of interest to young as well as old. In our youth we remember to have been fascinated with the rakes, and carts, and cutters, and what other evidences of mechanical skill our grounds afforded. These received the first and latest visit, and while the horses and cattle were an unfailing attraction, they alone would have made a barren show. This interest with years has deepened and broadened, until to-day we consider it paramount to that afforded by any part of our exhibition.

But only thirty dollars was awarded in premiums this year to Mechanic Arts. Only fifty-three dollars in 1868, against four or five hundred to stock, and even these small sums are "subject to revision." This seems very scanty, not enough to defray the expenses of a dozen entries.

Now we claim that the department of Mechanic Arts suffers yearly by reason of undue attention paid to stock and that so called more popular part horse trotting. We do not depreciate the value of stock. Let us not be understood to disparage the horse in particular, as an animal useful and ornamental, or lessen the attention due to his meritorious appearance and performances. But we have seen men who held their own muscle cheaper than the sinews of a horse. And many to-day look upon a horse as an exceedingly famous thing. Said one man, "He who cannot *love a horse* is not fit to have a wife." Now this estimation is false. The horse is as the buggy, worth so much. Either may die or wear out, and be replaced. The one grows in the course of nature, the other is created by human genius. If arrogant in your claims for horseflesh, take it away. Is an animal more beautiful than a steam engine? more safe in proportion to the labor achieved? more powerful? more noble? Shall the horse say to the mower, I am better than thou. And what ox will presume to challenge the merit of a plow or cart? Alike devoid of reason, there is the brute life working by instinct over compulsion, and the unreasoning machine, obeying the law fixed unalterably by the adaptation of its parts in accordance with some idea. Both are subservient to the wants of man. Each ministers in its way to his necessities. Their importance varies as their efficiency.

Now the Fair must be conducted in its own interest. But we know of no interest that warrants the expenditure of so much money upon "time." Let it be that some person probably not a member has a horse of great speed. We can never afford to give one tenth of our premiums to a single race. So much money goes for no fair equivalent. Not a working man in the community is the gainer. The stock raisers and those interested in useful products, are crippled in their shares of premiums. The better part is thereby discouraged from attending at inevitable expense, and the interest of the farmer is sacrified to an empty show.

For really there is not the interest in the "trot" that at sight one supposes. True, most persons crowd to the ring, and all are looking, as look they must in some direction, and for a brief space the heads of the drivers are visible, but all, it may be affirmed, after standing and staring to witness the final heat, turn with unusual relish toward the Hall, to those exhibitions that please to an equal extent and advantage the spectator in a tenfold ratio.

We believe that in no year of the century have the interest of the

country been so largely mechanical. The horse and the ox are not the giants of twenty years ago. The machine is of equal account. We quite foresee the time when cart and plow shall move by other forces in man's employ, and he be the gainer thereby.

Moreover the Fair has grown less exclusively agricultural. The primitive show of cattle and breeding mares, straw cutters and plows, apples, corn, and bedquilts—by courtesy—has been gradually merged in the fair of to-day, where all the products of the Community appear in this best estate for the benefit of all parties. Here the producers of gloves and of glass, have a place with owners of cattle and sheep. Here come the dealers in silver and shoes. All meet upon common ground. For them provision must be made. To them must be accorded the grades of merit, and their presence be recognized by appropriate premiums.

Now as a committee we deem that the Society has failed in this matter. The Fair in its nature and scope has changed while its direction goes on very much as of old. Awards are made to about the same amount for similar objects. The departments of rising importance have not due recognition and sustenance. For they will not sustain themselves. The love of display, the pleasure one takes in the public appearance of his wares, will never support the several branches of our Fair. There must be introduced the element of chance. The possibility of successful competition to reduce expenses of exhibition or exhibitors will send their goods elsewhere, and our display consist of leanness.

We plead then for more money to be given in premiums worthy the importance of the articles in question, that specific awards be made to successful competitors, that every inducement in the Society's power be afforded to owners and inventors to exhibit their various mechanisms.

It was a pleasant and by no means an onerous task to examine the twenty-seven entries in this department. There was a mowing machine, solitary but stout and serviceable. Some substantial carts by J. Adams' Sons. It seems desirable that wagons and carts of various kinds should be better represented than is customary. A few specimens of fancy carriage work would add much to the appearance of our grounds, and it seems advisable to make arrangements to protect the same from sun and rain, that owners need not fear to risk their property in our care. Hunt & Co. had stoves in full operation and were in attendance to set forth their merits, as all shonld be who have articles on exhibition and expect the Committee Award.

The Blees Sewing Machine, link motion, was exhibited by Wm Conkey & Co., and attracted much attention, as did also Wire Work by Allen, of which we bespeak future specimens. The Hinckley Knitting Machine was in full operation by Storrs & McCloud. Also many articles of merit, of which we make no special mention. The display on the whole, although not discouraging, leaves room for large improvement next year. We trust that the members will be earnest in their efforts to attract such articles to our grounds.

We hope and expect to see *one hundred entries in Mechanic Arts* next year, and ask for *one hundred dollars* to bestow upon them. Let us see twenty sewing machines in good running order, ready to exhibit their work to persons interested. And believing that it will be of especial interest to the ladies, and something much demanded by the times, we recommend that a grand trial of sewing machines be held in our hall on the second day of the Fair next year, in which *all machines* are invited to compete for a silver medal or medals to be given by the Society if possible, or obtained by private subscription for the purpose. Let all the ladies come and adorn our hall, with many specimens of their handiwork and the means therewith of performing it.

Finally, we recommend that the Society collectively and individually take the especial pains to inform the inhabitants of this county, by word and post and paper, that next year on the grounds of the Hampshire Agricultural Society, there is to be the finest display in mechanic arts ever witnessed in this vicinity, and to see well to it that there be none disappointed. It can be done ; we pledge our hearty co-operation to that result, and are confident of its attainment.

For the Committee,

C. ADAMS.

Report on Essays.

Your committee engaged in the duties assigned them, with mingled emotions of pleasure and anxiety. With pleasure, in view of the bright pages of literature which lay before them to be reviewed, and anxiety lest an unjust award should dampen the zeal of some youthful essayist.

For the purpose of enjoying the former, and avoiding unpleasant results which would follow the latter, the essays were all read and portions of them re-read in hearing of the committee, each member marking their merits upon a given scale as they were read, and these markings compared before engaging in any discussion concerning their comparative merits. It was a nice point to decide upon the comparative merits of Livermore's and Clark's essays on special farming; each appeared to understand the subject on which they were writing, and expressed their ideas in a very clear and pleasant style. We are of opinion, however, that R. W. Livermore discussed the subject a little more fully of the two, and the committee were unanimous in awarding to him the first premium on special farming; the second to John W. Clark, the third to E. B. Smead, the fourth to Clarence E. Brown.

The examination of essays on general farming was conducted in the same manner, and the awards were as follows: first premium to R. W. Livermore, second to Fred N. Summers, third to Clarence E. Brown, fourth to M. M. Hobart.

The general rules for writing essays are so few that every one should become familiar with them. First.—A complete essay contains all facts upon the subject under discussion, in possession of the essayist, and no more. Second.—The form of words in which the ideas or sentiments are arranged, should be that most perfectly understood by the writer.

L. P. WARNER.

Report on Bread.

Bread is a chief article of food for millions of the human family. This renders it a thing for careful consideration, and for close investigation in regard to its composition. It is prepared principally from the flour of three cereals, wheat, corn, and rye. The finest and choicest bread is made from the flour of wheat. A coarser and more common article is made of rye flour. And yet another kind highly prized is the time-honored and delicious "Rye and Indian," seldom missing on the boards of the laboring classes. These three are the "staff of life" for millions. We will speak of each kind separately:

WHEAT BREAD.

The best wheat bread is made from the finest bolted wheat flour. By the best, I mean not only the most palatable but the handsomest bread. Graham bread, made from unbolted wheat flour, contains all the elements of the wheat grain, and is considered not only very healthful, but highly nutritious, and is used extensively by dyspeptics and people with a torpid digestive apparatus. But we will speak of this hereafter. A well made loaf of wheat bread is a "thing of beauty." In fact, bread making may properly be considered one of the "*fine arts.*" De Quincey treats of murder as one of the fine arts, and certainly turning out a white, beautifully formed, fragrant loaf of bread is as high an art as a skillfully performed homicide by the most accomplished artist in that line.

Allowed, then, that bread making is a "fine art," we will add to this statement that it requires as much real taste and skill to make a beautiful, palatable and healthful loaf of wheat bread as it does to paint a picture or compose a poem. Mere practice alone will enable many to produce a fair article of bread, but in order to be-

come an accomplished artist in this line, something more than practice and experience is certainly necessary. The skilled bread artist should be a scientific chemist. She should fully understand all the chemical affinities that operate in the bread mixture, the nature of every material in its composition, and the interesting changes and combinations that occur between all the several elements. As these elements unite only in definite proportions, she should study to learn the exact amount of each that is required, for an excess of either one may spoil the loaf. Flour is composed principally of gluten. This is the basis of bread. Milk or water is used to moisten and unite the particles. Yeast is added to produce the formation of carbonic acid gas. The whole mass is then kneaded well together. Now if the dough is put in a warm place, fermentation commences, and the particles of gas, unable to escape, percolate through the dough, making it cellular in structure, and causes it to swell and expand. This is called rising. At this point it must be made into loaves and put into the oven. Bread should not be baked too long. One hour is sufficient if the oven is properly heated. When properly done it comes forth from the oven with just a delicate brown on top, sweet, fragrant, spongiform, and really an object of beauty, and the pride of the fair artisan. One thing in particular should be remembered by the bread maker. Be careful to knead the dough for a long time. It can hardly be kneaded too much. I will give one recipe here, appended to one of the premium loaves. It may be as good, and no better, than scores of others found in cook books, or in possession of other bread-makers. "Take new milk and heat it boiling hot, then stir in a little flour. When cool enough, add sufficient hop yeast and let it rise over night. In the morning mix up stiff as necessary with flour and let it rise. Then knead and put into a pan, and when light, bake one hour." This recipe is very deficient, inasmuch as it gives no proportions. There is nothing definite but the baking one hour. The quantities of milk, flour, yeast, &c., should all have been given. We do not know whether the loaf was to weigh one pound or fifty. We wish the lady had given us the proportions, as the bread was very nice.

Graham bread, or bread made from unbolted wheat flour, is necessarily a coarse article. But with proper care and skill it can be made very palatable and nice. It is very healthful for invalids with torpid, inactive stomachs, and as it contains all the elements of the grain, will actually supply more material for bodily growth and formation of the different tissues of the body than the common wheat-

en loaf possibly can. Yet "Graham bread" never can take the place of its more beautiful sister "Lilly White Bread." Brother and sister will go hand in hand, interesting members of the same family, beloved by everybody. We will now introduce a more plebian member of the Bread family, viz. Rye bread, an article pretty commonly found on the boards of the farming community. In fact, the best rye bread is very little inferior to wheat bread, and by many is preferred to the latter article. As rye can be raised by many farmers who cannot raise wheat, it becomes important from this consideration. As an article of health it is not inferior to wheat bread. Rye bread is made the same as wheat. It will, however, require more baking and quite as much kneading in the dough. The following statement was appended to rye bread, entry No. 2. "This bread was made from rye of our own raising. The flour was mixed with sweet milk and hop yeast, I mixed it sufficiently stiff, and let it rise. Then I kneaded it and put it in the pan for baking, and let it rise till light, then baked it one hour."

Here we have another receipt without giving the proportions. It is useful only as a general direction.

Lastly, I will mention rye and Indian bread, the great staple edible of nearly every farmer's family. This bread is the most difficult to make of any; if poorly made it is heavy, livery, soggy, and enough to "choke a dog." If well made, it is fit for a king to eat. I shall never forget the rye and Indian loaves, that came out of the great brick oven, at the old homestead, and made by my old mother, (now eighty-nine years old) thirty years ago. The oven was heated, the hot coals removed with a long shovel, and then the bottom of the oven swept clean with a birch broom moistened in water. The dough was then put into spiders and bake pans, and well smoothed over with the hands dipped in clean cold water. Then the pans were shoved to the back side of the oven, the front part being left for pies. When these loaves come out well done they were just—heavenly! I have never eaten bread like it for thirty years. While I pay such a strong tribute to the bread of my good old mother, I pay the same to all the bread makers of her day who certainly made better rye and Indian bread than has ever been made since, and one secret of their art was the old *brick oven.* No stove ever made such bread as a brick oven. Here is a receipt for rye and Indian bread appended to entry No. 10: "Two cups of graham flour (?) two buttermilk, one half cup molasses, one half cup hop yeast, one teaspoonful salt, one teaspoonful saleratus, add equal parts corn

meal and rye flour and moisten with sweet milk to make a stiff batter enough for one good sized loaf, mix very thoroughly. Let it rise sufficiently, and then put into the oven and bake two hours." (A very good receipt we should think.)

I must not forget to mention the very fine loaf made by a girl eleven years old, and for which we awarded the Society's premium. It was nearly equal, in point of excellence, to any loaf on exhibition. We predict that the young Miss, will not only make an excellent cook, but one of these days a profitable and thriving housewife. We give her receipt for making bread. "One quart flour, one pint new milk, one cup hop yeast, mix well together and set it in a warm place to rise, when light mould and knead well and put into a pan. Let it rise half an hour, then bake three quarters of an hour." (This is the most perfect statement of any.)

We cannot close this article without urging upon our young ladies the great importance of becoming expert bread makers. No young wife is ever so mortified as, when she makes her first attempt to make bread, a failure. It is a poor beginning to place before a young husband as a first effort in cookery, a loaf of bread that he might well use to top out his stone wall with, it is so hard and soggy. He would begin to think he had caught a Tartar or rather that he had not caught Tartar enough. No young lady should ever dare to marry until she can make a first rate loaf of bread, if she does there will be a family quarrel before the honey moon is over, we venture to predict. Far wiser than the dog law would be that Legislative enactment, that no girl should be permitted to get married until she could make good bread.

Your committee awarded the premiums as follows :

Wheat bread, first premium to Mrs. C. B. Hubbard, $2.00; 2nd to Sophia Wood, $1.00 ; 3d to L. V. B. Cook, 50c.; J. Wheaton, 50 cents.

Rye Bread, first premium to Mrs. E. P. Dickinson, $2.00; Mrs. C. B. Hubbard, $1.00; Mrs. S. W. Boutwell, 50c.

Graham bread, first premium to Mrs. S. W. Boutwell, $2.00 ; Mrs. C. B. Hubbard, $1.00; G. L. Cooley, 50c.

Rye and Indian bread, Mrs. S. W. Boutwell, $2.00; Mrs. Wilson, Belchertown, $1.00.

Bread made by a girl under 14 years old, to Miss A. E. Kentfield, Hadley, $1.00.

Respectfully submitted,

DAVID RICE, Chairman.

Report on Farm Crops.

Three different entries were made by two different competitors, for the Society's premiums on farm crops. The crop of wheat entered by Mr. George W. Graves of Sunderland, was raised on a rich, alluvial soil, and followed a crop of tobacco with good success. He does not plough the land after harvesting the tobacco crop, but cultivates and harrows thoroughly before sowing his wheat. He attributes his success to the time of sowing, (about the 20th of September,) the selection of clean seed, of a good variety, and thorough harrowing during the month of April. This field of wheat was sown very even, and the growth from the outset was very uniform.

The experiment shows how easily the elements of the soil are controlled and made subservient to the will of the farmer who understands the natural laws that govern them.

Mr. Warner's experiment in the cultivation of onions, evidently produced satisfactory results, yet they are such as are not sure to follow a single experiment, and your committee are inclined to regard them as the legitimate results of deep thought, close observation, and a long experience in which the whole operation of onion growing has been reduced to a system.

As the experiment in raising peas for the vegetable market, is not one which the society have thought proper to encourage, the competitor can hardly expect a premium. We regard the experiment, however, as of interest to the market gardener, and have assumed the responsibility of awarding the society's diploma to Mr. L. P. Warner of Sunderland, for the best conducted experiment in the cultivation of peas for the vegetable market.

To George W. Graves, 1st Premium on Wheat, - $8.00.
To L. P. Warner, " " " Onions, - - 8.00.

J. P. GRAY, *Chairman of the Committee.*

Report by the President.

The Fwenty-First Annual Exhibition under the auspices of this Society, was held on two fine autumnal days, Sept. 27th and 28th. The stock on exhibition was not so numerous as would be desirable, and a superficial observer might regard the fair discreditable to a society just entering upon that stage of its existence when its fairs should be model ones. A more critical examination, however, would show there was no lack of interest in this department, as the collection of animals on exhibition contained fine specimens of most of the approved breeds. There was among them the thoroughbred Durham, Ayrshire, Devon and Jersey Bulls, from the Agricultural College farm, all very fine animals, foreshadowing the coming stock of the county. Also a thoroughbred entered by Mr. Alden Graves of Sunderland, and some good grades by other exhibitors. The number of Milch Cows were small, but were all choice animals. Herds exhibited by Mr. Chester Smith of Hadley, Mr. L. Sweetser of Amherst, and one from the Agricultural College farm, in each of which were found some model specimens of their kind. The few pairs of working oxen and trained steers on exhibition were very good, and considerable skill was displayed in their management. Perhaps no better stock could be found within the limits of the society than was on exhibition, but we are of opinion that any school district might show as large a number of very good animals.

Some fine families of swine were on the ground, all having the last black bristle and coarse point bred out of them. The numerous sales in this class of stock make it an interesting feature of the fair. The sow with pigs owned by Mr. Alanson Hubbard of Sunderland, drew a crowd of purchasers.

The exhibition of sheep was small but very good. The South Down Buck entered by Mr. P. D. Hubbard of Sunderland, was a fine animal, seven months old, weighing 117 pounds. Four ewes by the same exhibitor were worthy of notice, while the small number

would not allow the committee to award them a premium. The lambs entered by C. A. Eastman were very much admired for their symmetry of form.

The horse show seemed the great object of attraction to the crowd of spectators that gathered upon the Park on the second day of the fair ; and truly a more elegant display of horses has scarcely if ever been witnessed upon the society's grounds. During the last decade of years a public benefit has been conferred upon the county by drawing out and bringing before the public a class of animals of greater utility. One could not help being struck with the form and activity of all classes of horses that were on exhibition, especially the carriage horses, which were very numerous and of beautiful style and proportions. Many of these animals came to the exhibition from the plough, mowing machine or the horse cart, and would compare favorably with those entered as farm or draught horses for all work.

It is not to be expected that the proper activity, powers of endurance and docility so essential to the horse for the farm, road and the carriage can be obtained at once, but from what has been accomplished we are satisfied that a few years more will produce a very much improved class of horses for the farmer. There is no class of animals so hard used at our fairs as the farm horses, and we have often thought the committee might judge as correctly of their comparative merits by seeing them handle a wagon loaded with two tons of stone as with the additional weight of fifteen or twenty men.

The exhibition of apples was not as large as on some previous years, and the quality was not above an average. One collection exhibited by Dr. Trow of Sunderland, containing choice specimens of more than thirty varieties, did not receive its just award, on account of a misunderstanding with regard to the number of specimens that should have been placed on each plate. The show of pears, grapes and quinces was very good. Samples of canned and dried fruits were numerous, and highly creditable to the exhibitors.

The show of vegetables was large, and the quality excellent. Mr. Huntington of Hadley, had on exhibition a large collection of garden vegetables, Mr. Smith of Amherst, ten varieties (one bushel each) of potatoes, which attracted the attention of spectators, and F. W. Harrington, some fine squashes.

The trace of seed corn, braided by the Agricultural College (Boys) Students, speaks well of their habits of industry, and made

a fine show. The samples of grain on exhibition, showed great care in selecting seed for reproduction.

Messrs. Burt & Co. exhibited some beautiful table ware, tastefully arranged by Mr. Couch; Mr. W. H. Saxton, a case of silver ware of great value, also a Howe sewing machine and some clocks that did not gain or lose time to accommodate an impatient crowd. Messrs. Hunt & Co. exhibited Stewart's improved stoves and furniture; Dickinson & Wight, the American Cook and Morning Glory. M. N. Spear contributed a number of very fine specimens of wall paper, and Mrs. C. A. Hall a case of millinery that was very much admired by the ladies.

The thanks of the Society are due to Mrs. J. P. Gray and Mrs. H. A. Marsh, for their fine display of rare flowers. Also to Mrs. Jennie Lyman of Leverett, for flower pots and frames.

Some good practical essays were entered for the Society's premiums, and we regret that so little has been done to encourage effort in this direction.

The Address, by Prof. Parker, was one of real worth, and was listened to by a large and attentive audience.

Award of Premiums.

The following are the names of successful competitors at the Twenty-First Annual Exhibition of the Hampshire Agricultural Society, with their residence and amount of premiums awarded to each.

CLASS 1.—TOWN TEAMS.

2 entries.

1st premium,	Hadley, for longest string,	$20.00
2d "	" for best string,	10.00

CLASS 2.—CATTLE FOR THE STALL AND FAT CATTLE.

3 entries.

1st premium,	Chester Smith, Hadley,	$8.00
2d "	" " "	5.00
3d "	" " "	3.00

CLASS 3—WORKING OXEN.

11 entries.

1st premium,	S. Brainard, South Hadley,	6.00
2d "	J. P. Gray, Amherst,	5.00
3d "	Leonard Newell, Pelham,	4.00
4th "	Flavel Gaylord, Amherst,	3.00
5th "	Isaac King, Amherst,	2.00
6th "	S. F. Dudley, Shutesbury,	1.00

CLASS 4—TRAINED OXEN AND STEERS.

6 entries.

1st premium,	4 year olds,	Chas. Whittemore, Sunderland,	5.00
2d "	" "	Parsons West, Hadley,	4.00
1st "	3 year olds,	W. Tuttle, Hadley,	3.00
2d "	" "	J. W. Hobart, Amherst,	2.00
1st "	2 year olds,	Chester Smith, Hadley,	2.00
2d "	" "	P. Bridgman, Belchertown,	2.00

CLASS 5—STEERS.

6 entries.

1st premium,	2 year olds,	T. Reed, Amherst,	2.00
2d "	" "	P. Bridgman, Belchertown,	1.00
3d "	" "	Chester Smith, Hadley,	50

CLASS 6—MILCH COWS.

1st premium,	Lorenzo Nash, Amherst,	6.00
2d "	B. U. Dickinson, Amherst,	4.00

CLASS 7—HEIFERS LESS THAN 3 YEARS OLD.

12 entries.

1st premium,	Henry Watson, Amherst,	3.00
2d "	L. Sweetser, "	2.00
3d "	" "	1.00
Gratuity, Agricultural College,		3.00

CLASS 8—BULLS.

5 entries.

1st premium,	Agricultural College,	10.00
2d "	Alden Graves, Sunderland,	5.00
3d "	Ransom Cowles, Amherst,	4.00
4th "	Asa Adams, Amherst,	3.00

CLASS 9—CALVES.

6 entries.

1st premium,	Agricultural College, Amherst,	5.00
2d "	C. S. Smith, Amherst, steer,	2.00
3d "	L. Sweetser, " heifer,	2.00
4th "	A. D. Loomis, "	1.00

CLASS 10—HERDS.

5 entries.

1st premium,	Agricultural College, Amherst,	10.00
2d "	Chester Smith, Hadley,	8.00
3d "	L. Sweetser, Amherst,	6.00
4th "	Henry Cobb, Amherst,	4.00

CLASS 11—SWINE.

9 entries.

1st premium,	boars, Agricultural College, Amherst,	4.00
2d "	" Henry Cobb, "	3.00
3d "	" C. H. Kellogg, "	2.00
4th "	" E. L. Hastings, So. Hadley,	1.00
1st "	sow with pigs, A. L. Hubbard, Sunderland,	4.00
2d "	" L. Gates, Amherst,	3.00
3d "	" E. N. Smith, Sunderland,	2.00
4th "	pigs, Henry Cobb, Amherst,	1.00

CLASS 12—POULTRY.

13 entries.

D. B. Crocker, Sunderland, cock and six hens,	2.00
S. Hastings, Amherst, " "	1.00
C. B. Hubbard, Sunderland, " "	50
C. S. Kenfield, Amherst, largest number,	3.00
C. B. Hubbard, Sunderland, turkeys,	2.00
L. V. B. Cook, Belchertown, "	1.00
H. C. Baker, Amherst, ducks,	50

CLASS 13—SHEEP.

9 entries.

P. D. Hubbard, Sunderland, buck,	4.00
J. A. Morton, Hadley, buck,	3.00
Agricultural College, Amherst, ewes,	5.00
D. B. Crocker, Sunderland, "	4.00
Parsons West, Hadley, "	3.00
J. A. Morton, " "	2.00
P. D. Hubbard, Sunderland, "	2.00
C. A. Eastman, Amherst, lambs,	3.00

CLASS 14—MECHANIC ARTS AND FARM IMPLEMENTS.

27 entries.

W. Conkey & Co., Amherst, Sewing Machine,	4.00
L. W. Allen, Amherst, wire work,	2.50
J. M. Ford, Rowe, sugar evaporator,	Diploma.
J. Adams & Sons, Hadley, wagons, carts, etc.,	10.00
James Baker, Amherst, pulverizer,	3.00
Hunt & Co., " stoves,	5.00
R. W. Stratton, " boots and shoes,	3.00
W. H. Saxton, " silver ware,	Diploma.
G. W. Morton, Hadley, carriage jack,	50
W. H. Saxton, Amherst, sewing machines,	4.00
" " clocks,	2.00
W. H. Matthews, Middlebury, Vt., washer,	Diploma.

CLASS 15.—DOMESTIC AND OTHER MANUFACTURES.

29 Entries.

Mrs. H. Eaton, Amherst, embroidery,	$1.00
" " " "	.50
Miss Ella Smith, " tidy,	.50
Mrs. E. P. Dickinson, Sunderland, tidy,	.50
" Wm. Kellogg, Amherst, "	.50
Miss Etta Kellogg, " "	.50
" Susan Clark, Sunderland, mittens,	1.00
Mrs. C. B. Hubbard, " "	.50
" Lucius Sisson, " yarn,	.25
" H. E. Eaton, Amherst, doll,	.25
Nelson Scott, " turnings,	1.00
Mrs. L. O. Chittenden, Sunderland, ottoman,	.25
" " " spool case,	.25
" E. P. Dickinson, " ottoman cover,	.75
" Ebenezer Arms, Conway, counterpane,	1.25
" Henry Hawley, Amherst, "	1.00
" Justin Hawley, " bed spread,	1.00
" Rufus Thayer, Belchertown, bed quilt,	1.00
" E. P. Dickinson, Sunderland, " "	1.75
" S. W. Boutwell, Leverett, " "	.50
" Dwight M. Thayer, Belchertown, blanket,	1.00

Mrs. S. S. Dickinson, Amherst, rag carpet,	1.75
" A. J. Bartlett, " " "	1.50
Monroe Keith, Granby, robe,	1.00

CLASS 16.—FANCY ARTICLES.

54 Entries.

Mrs. O. H. Curtis, Amherst, wreath,	$1.00
H. D. Graves, Sunderland, worsted work,	1.00
" " tidies,	1.00
L. S. Baker, Amherst, tidy,	.50
C. H. Kellogg " "	.25
C. D. Gray, Pelham, "	.50
Miss Jennie Parker, Amherst, ottoman,	.50
Mrs. B. U. Dickinson, " tidy,	.60
Miss Grace Smith, " cushion,	.50
Mrs. James Crozier, " "	.50
C. H. Kellogg, " robe,	1.50
Miss Julia Whipple, " castle,	.25
Mrs. S. F. Cooley, North Hadley, scarf,	.75
Austin Eastman, Amherst, quilt,	1.00
Angie Thayer, " knife rest,	.50
C. A. Hall " case of millinery,	3.00
B. U. Dickinson, " sofa chair,	1.00
Messrs. Storrs & McCloud, Amherst, blank books,	3.00
Mrs. B. U. Dickinson, " mat,	1.00
S. F. Cooley, North Hadley, "	.75
S. W. Boutwell, Leverett "	1.00
Dwight M. Thayer, Belchertown, picture,	.50
J. L. Lovell, Amherst, photographs,	2.00
Mrs. Mary E. Barker, Amherst, shawl,	1.00
Martin Clifford, " mittens,	.40
Thomas Wayne, Hadley, slipper pattern,	.25
Miss Mary Minor, North Hadley, tidy,	.25
B. S. Rankin, Pelham, "	.75
Mrs. C. B. Hubbard, Sunderland "	.25
J. T. Westcott, Amherst, "	.40
C. H. Kellogg, " "	.25
James Crozier, " "	.50
" " " "	.25
C. B. Hubbard, Sunderland, "	.50

Mrs. James Hastings, Amherst, tidy	.25
L. V. B. Cook, Belchertown, "	.30
Miss Julia Whipple, Amherst, fancy box,	.25
Mrs. C. S. Kenfield, " slippers,	.50
O. H. Curtis, " bracket,	.30
Miss C. A. Curtis, " cushion,	.25
Mrs. P. D. Hubbard, Sunderland, mat,	.25
Miss Amy Dickinson, Amherst, "	.20
Mrs. C. B. Hubbard, Sunderland, "	.25
Miss Jennie Lyman, Leverett, flower pots,	1.50
H. Burt & Co., Amherst, Crockery,	5.00

CLASS 17.—BREAD.

20 Entries.

Mrs. C. B. Hubbard, Sunderland, wheat,	2.00
Miss Sophie Wood " "	1.00
Mrs. L. V. B. Cook, Belchertown, "	.50
E. J. Wheaton, Amherst, "	.50
E. P. Dickinson, Sunderland, rye,	2.00
C. B. Hubbard, " "	1.00
S. W. Boutwell, Leverett, "	.50
" " " Graham,	2.00
C. B. Hubbard, Sunderland "	1.00
G. L. Cooley, " "	.50
S. W. Boutwell, Leverett, rye and Indian,	2.00
S. Wilson, Belchertown, "	1.00
Miss E. A. Kentfield, Hadley, "	1.00

CLASS 18—BUTTER AND CHEESE.

3 entries.

Mrs. E. N. Smith, Sunderland, butter,	5.00
" C. B. Hubbard, " "	3.00
" Mary King, Amherst, cheese,	3.00

CLASS 19—HONEY, WINES, JELLIES, &c.

27 entries.

Mrs. E. P. Dickinson, Sunderland, currant wine,	50
" S. W. Boutwell, Leverett, "	25

Mrs. Joseph Dickinson, Amherst, grape wine,	50
" E. P. Dickinson, Sunderland, "	25
" L. R. Chapin, Amherst, tomato "	25
" S. W. Boutwell, Leverett, blackberry wine,	50
" E. P. Dickinson, Sunderland, " "	50
" " " " raspberry "	50
" P. D. Hubbard, " maple syrup,	50
" " " strained "	50
" J. A. Horton, Hadley, canned fruit,	1.00
" C. H. Kellogg, Amherst, "	50
" S. W. Boutwell, Leverett, "	25
" C. B. Hubbard, Sunderland, maple syrup,	50
" E. P. Dickinson, " pickles,	25
" " " dried apples,	50
" Joseph Dickinson, Amherst, "	50
" Mary S. Rowe, Sunderland, "	25

CLASS 20—FRUITS.

30 entries.

E. H. Judd, South Hadley, pears,	4.00
D. S. Cowles, " "	3.00
James Hastings, Amherst, "	2.00
S. F. Cooley, North Hadley, "	1.00
E. H. Judd, South Hadley, apples,	4.00
D. K. Bangs, Amherst, "	3.00
D. S. Cowles, Hadley, "	1.00
Dr. N. G. Trow, Sunderland, " gratuity,	3.00
S. S. Hibbard, No. Hadley, " "	3.00
Willard Kellogg, Amherst, " "	2.00
S. S. Dickinson, " " "	1.00
E. H. Judd, So. Hadley, collection of fruit,	5.00
David S. Cowles, Hadley, " "	2.00
H. D. Graves, Sunderland, quinces,	1.00
O. H. Curtis, Amherst, "	50
D. S. Cowles, Hadley, peaches,	1.00
L. V. B. Cook, Belchertown,	50
L. P. Warner, Sunderland, assorted fruit,	3.00
A. H. Allen, Holyoke, grapes,	2.00
W. H. Hobbie, Amherst, "	1.00
L. P. Warner, Sunderland, collection of apples,	4.00

CLASS 21.—VEGETABLES, SEEDS, GRAIN AND ROOTS.

42 Entries.

T. G. Huntington, No. Hadley, collection of vegetables,	3.00
D. A. Horton, Hadley, onions,	50
C. B. Hubbard, Sunderland, pumpkins,	1.00
S. Wiley, Amherst, tomatoes,	50
W. H. Russell, Hadley, carrots,	50
C. H. Kellogg, Amherst, parsnips,	50
F. W. Harrington, Amherst, squashes,	1.00
J. W. Allen, " sweet corn,	50
Nelson Scott, trace corn,	2.00
Alden Graves, Sunderland, winter wheat,	1.00
J. H. Shattuck, Hadley, "	50
S. D. Crocker, Sunderland, spring wheat,	1.00
C. B. Hubbard, " rye,	1.00
Ansel Hubbard, " "	50
J. F. Hutchins, Amherst, oats,	50
C. S. Smith, " potatoes,	50
J. W. Allen, " buckwheat,	50
E. A. Judson, Hatfield, "	25
Agricultural College, Amherst, trace corn,	2.00

CLASS 22—BOQUETS OF FLOWERS.

6 Entries.

Mrs. J. P. Gray, Amherst, boquets,	4.00
H. A. Marsh, " "	3.00
" " "	2.00
J. P. Gray, " crocuses,	50
" " verbenas,	50
John S. Cowles, Hadley, coxcombs,	50

CLASS 23—STALLIONS.

6 entries.

S. W. Clark, Northampton,	8.00
G. H. Johnson, Conway,	6.00
E. P. Bartlett, South Hadley,	4.00
A. F. Wildes, Montague, 1869,	8.00

CLASS 24—BREEDING MARES WITH SUCKING COLTS.

6 entries.

Alden Graves, Sunderland,	4.00
F. S. Dickinson, Amherst,	3.00
Parsons West, Hadley,	2.00
E. W. Chapin, Prescott,	1.00

CLASS 25—COLTS AND FILLIES.

11 entries.

P. D. Hubbard, Sunderland, 3 year old,	3.00
F. H. Williams, Sunderland, " "	2.00
Parsons West, Hadley, " "	1.00
E. M. Chapin, Prescott, 2 year old,	3.00
Parsons West, Hadley, " "	2.00
Alden Graves, Sunderland, 1 year old,	3.00
Michael Donohue, Amherst, 1 year old,	1.00

CLASS 26—FARM HORSES.

11 entries.

Agricultural College, Amherst, pairs,	8.00
H. D. Watson, " "	6.00
W. F. Hawley, Hadley, "	4.00
J. B. Kenfield, " "	2.00
E. Wiley, Sunderland, single,	3.00
D. A. Wright, Hadley, "	2.00

CLASS 27—CARRIAGE HORSES.

20 entries.

L. S. Dyer, Hatfield, pairs,	8.00
Geo. C. Smith, Hadley, pairs,	5.00
J. L. Bosworth, Southampton, pairs,	4.00
Smith Harding, So. Deerfield, single,	6.00
C. W. Thurber, Leverett, "	5.00
H. D. Watson, Amherst, "	4.00
E. P. Whitney, " "	3.00
G. W. Fitch, Hatfield, "	2.00
Chester Smith, Hadley, "	1.00

CLASS 28—ROADSTERS.

12 entries.

L. S. Dyer, Hatfield,	8.00
G. E. Cook, Hadley,	5.00
J. Cowles, Jr., Amherst,	3.00

CLASS 29—COMMITTEE REPORTS.

Charles Adams, North Hadley,	8.00
L. P. Warner, Sunderland,	6.00
Dr. David Rice, Leverett,	4.00
J. P. Gray, Amherst,	3.00

PREMIUMS ON CROPS.

Geo. W. Graves,	Sunderland,	winter wheat,	8.00
Levi P. Warner,	"	onions,	8.00
" "	"	peas,	Diploma.

SPECIAL PREMIUMS.

By vote of the Executive Committee, the following premiums were offered for essays on Special and General Farming; and awarded as follows:

For Special Farming:

R. W. Livermore,	Agricultural	College,	4.00
John W. Clark,	"	"	3.00
E. B. Smead,	"	"	2.00
Clarence E. Brown	"	"	1.00

For General Farming:

R. W. Livermore,	Agricultural	College,	4.00
Fred. M. Somers,	"	"	3.00
Clarence E. Brown,	"	"	2.00
M. M. Hobart,	Amherst	College,	1.00

Treasurer's Report.

R. W. STRATTON, Treasurer.

Dr.

By Cash from	M. N. Spear, Treasurer, 1867,	$98 00
"	R. W. Stratton, Treasurer, 1869,	151 34
"	Life Members,	55 00
"	Donation to Society,	34 70
"	Gate fees and Grounds,	715 95
"	State Bounty,	600 00
		$1654 99

Cr.

Storrs & McCloud, printing for 1869,	103 00
D. W. Palmer, use of Hall and plates,	9 38
Unpaid premiums of 1869,	12 00
Stationery, Stamps, &c.,	4 00
Discount on Life Members,	11 00
Express on Books,	2 65
Geo. B. Gallond, dinners,	48 00
Florence Band at Exhibition,	75 00
Storrs & McCloud, printing,	59 90
Special Premiums,	101 00
G. E. Parker at Amherst House,	22 25
F. D. Cook, lumber and repairing fence,	101 98
D. W. Blodgett, building chimney,	28 00
J. P. Gray, work on Park,	24 50
Prof. Parker's Address,	15 00
L. V. B. Cook, fence posts,	17 60
Agricultural College Scholarship,	51 00
Interest on Stetson's note,	24 00
Premiums for 1870,	610 54
R. W. Stratton, Secretary and Treasurer,	60 00
Work in Hall and Grounds at Exhibition,	54 50
Keeping Stock, &c.,	6 25
Cash in Treasury to balance account,	213 44
	$1654 99

I have examine the above account of R. W. Stratton, Treasurer, and find it correct. O. G. COUCH, Auditor.

Officers for 1870.

PRESIDENT.

LEVI P. WARNER of Sunderland.

SECRETARY AND TREASURER.

R. W. STRATTON of Amherst.

VICE PRESIDENTS.

Levi Stockbridge of Amherst,
John A. Morton of Hadley,
Dr. David Rice of Leverett,
Austin Eastman of Amherst,
Phineas Bridgman of Belchertown,
L. H. Newell of Pelham.

EXECUTIVE COMMITTEE.

J. P. Gray of Amherst,
O. N. Gaylord of Amherst,
Harrison Ingram of Amherst,
John O. Ashcraft of Hadley,
Henry Cummings of North Hadley,
P. D. Hubbard of Sunderland,
E. N. Smith of Sunderland,
F. W. Field of Leverett,
W. B. Kimball of Enfield,
Munroe Keith of Granby,
L. V. B. Cook of Belchertown,
Rev. John Jones of Pelham,
Newton Montague of South Hadley.

AUDITOR.

O. G. COUCH of Amherst.

BY-LAWS

OF THE

Hampshire Agricultural Society.

Article 1. The officers of this Society shall be one President, six Vice-Presidents, a Secretary and Treasurer, and an Executive Committee of thirteen, to be chosen by ballot, except the Vice-Presidents, who may be chosen by nomination at the annual meeting, and to serve one year, and until others are chosen in their stead.

Art. 2. The President shall preside at all meetings of the Society, and in his absence one of the Vice-Presidents.

Art. 3. The Secretary shall keep a true record of all the doings of the Executive Committee and the Society.

Art. 4. The Treasurer shall keep an account of all monies rereceived into and paid out of the treasury. His accounts shall always be open to inspection by any member of the Society, and he shall give bonds, in such sum as shall be designated by the Executive Committee, for the faithful discharge of his duties, and he shall make an annual report, previously audited.

Art. 5. It shall be the duty of the Executive Committee to call special meetings of the Society, and upon the request of not less than ten members from each of four different towns they shall call such meetings; to designate the time and place of annual exhibitions, and make all necessary arrangements therefor; to appoint sub-committees for examination and to award premiums; and to have a general supervision over the funds and affairs of the Society. The President and Secretary shall be members of the Executive Committee.

Art. 6. The annual meeting of the Society shall be held on the last Wednesday of December each year, and twenty members shall constitute a quorum to do business.

Art. 7. Notices for all meetings of the Society shall be signed by the President and Secretary, and published in some newspaper in the County, or circulated by handbills, or in any other manner that may be designated by the Executive Committee.

Art. 8. Any male person may become a life member by paying to the Treasurer the sum of five dollars. Any lady by payment of two dollars and fifty cents, may become a life member.

Art. 9. All premiums not called for within six weeks after the same are awarded shall be paid into the treasury and be considered as presented to the Society.

Art. 10. These By-Laws may be amended or altered by a majority of the members present at any legal meeting.

General Rules.

When premiums are awarded to persons not members of the Society, the person may pay to the Treasurer the sum necessary to constitute such person a life member, and receive a certificate and premium, or such person may receive in cash one-half of the premium awarded.

Gentlemen may be admitted as members of the Society on payment, to the Treasurer of the Society, of the sum of $5: ladies, $2.50. All male members may become honorary members on payment of $5 in addition. Female members by paying $2.50 in addition.

All premiums not called for within six weeks after the same are awarded, shall be paid into the treasury and considered as presented to the Society.

In extraordinary cases GRATUITIES may be awarded by Committees in addition to the premiums, but the payment of them will depend upon a vote of the Executive Committee.

No animal can receive more than one premium, except at the discretion of the Executive Committee.

All stock and other articles for exhibition must be entered in the name of the owner.

Articles competing for premiums must be designated by No. and not the owner's names.

Products and articles entered for exhibition only may have the owner's name attached. But those of trifling and insignificant value, and which exhibit no superior skill, will not be entered upon the books of entry.

Any person offering articles for competition is advised to leave with the Secretary a clear and brief account in writing of its peculiar merits and novelties, that the attention of the Committee may be drawn thereto when examining it, and secure for it a notice in our report of the Fair.

☞ Whatever Books, Periodicals, or other articles of value may be presented to the Society for that purpose will be awarded as premiums or gratuities.

LEVI P. WARNER, *President.*
R. W. STRATTON, *Secretary.*

MEMBERS—1869.

Mrs. E. N. Smith, Sunderland.
Mrs. J. G. Adams, "
E. G. Clark, "
Mrs. A. N. Russell, "
Mrs. Wallace R. Warner, "
Mr. W. H. Hobbie, Amherst.
Henry M. McCloud, "
Charles L. Storrs, "
Samuel Hastings, "
Mrs. J. W. Allen, "
Mrs. C. A. King, "
Miss Hattie S. Hobart, "
Mr. Francis J. Cowles, "
Miss Etta Cowles, "
C. H. Kellogg, Amherst.
A. B. Howard, Belchertown.
Martin Thayer, "
W. H. Russell, Hadley.
Henry E. Smith, "
Thaxter Shaw, Montague.
Mrs. C. D. Gray, Pelham.
O. D. Hunt, Amherst.
Geo. Montague, "
Jessie L. Delano, Sunderland.
Hollis D. Graves, "
John G. Montague, "
Mrs. E. P. Hibbard, Hadley.
S. S. Hibbard, "

MEMBERS—1870.

Henry D. Watson, Amherst.
Mrs. Hattie V. Watson, "
Nelson Scott, "
Calvin D. Gray, Pelham.
Sylvester Brainard, So. Hadley.
W. H. Saxton, Amherst.
D. A. Wright, Hadley.
Ely W. Chapin, Prescott.
L. S. Dyer, Hatfield.
G. H. Johnson, Conway.
Mrs. C. H. Kellogg, Amherst.
A. P. Peck, Northampton.

NAMES OF TOWNS AND CITIES TO WHICH THE PREMIUMS AND GRATUITIES WERE DISTRIBUTED AND THE AMOUNT TO EACH.

Amherst,	$227 65	Prescott,	9 00
Belchertown,	11 30	Hatfield,	18 25
Conway,	7 25	Leverett,	16 25
Sunderland,	122 25	Holyoke,	2 12
Hadley,	136 00	Southampton,	4 00
South Hadley,	20 00	Various other towns,	23 13
South Deerfield,	6 00	Total,	
Northampton,	4 00		$611 95
Pelham,	4 75		

THE LARGEST, BEST,

And most varied stock of

READY MADE

CLOTHING,

In Amherst can be found at the Store of

F. P. Baker,

MERCHANT TAILOR and dealer in all styles of

GENT'S FURNISHING GOODS,

HATS, AND CAPS, ETC., ETC.

FINE SHIRTS

Made a speciality of, both in Custom and Ready Made.

A Perfect Fit Warranted.

F. P. BAKER.

No. 3, Palmer's Block, Amherst, Mass.

"Choice, Charming, Cheap."

The Nursery.

"Best of all the Magazines for the Children."

'Exquisitely illustrated.'—'Beautifully printed.'—'Admirably edited.'

Such is the testimony of leading critical journals. "The Nursery" will enter on its fifth year, January, 1871. It has attained its present large circulation by sheer merit, and by attractions the most genuine, appreciated by both young and old. In its peculiar line it is without a peer. We shall spare no expense in keeping up its high character, and making it, if possible, more and more attractive.

Terms $1.50 a year in advance; 15 cents a single number. A liberal discount to Clubs. Premiums given for new subscribers. A sample number for 10 cents. Address the Publisher,

JOHN L. SHOREY,

No. 36 Bromfield St., Boston.

The Little Corporal Magazine for January is received. It is small praise to say that this magazine has no superior and few equals in the world, for children of all ages, and for older people with young hearts. The new serial begun in this number opens admirably and the whole number is as full of good things "as an egg is of meat." The illustrations are exceedingly creditable. $1.50 a year, and beautiful premiums for clubs. Address Sewell & Miller, Publishers, Chicago, Ill. The November and December numbers of '70 are sent free to all new subscribers for 1871 sent before January 1st.

THE OHIO EDUCATIONAL MONTHLY.—

The arrangements made for the publication of the Eleventh Volume of this Magazine, beginning, January, 1871, warrant the assurance that its present character will not only be maintained, but that it will be made still more worthy of the profession of teaching and the great cause of education.

Subscription Price.—One copy $1.50 a year; four or more copies at $1.25 a copy. The sender of a club of Ten subscribers at club rates, will receive an extra copy Free. Subscriptions begin with the January or July number.

Address the Publisher, E. E. WHITE, Columbus, Ohio.

LELAND & THOMAS,

Fire & Life Insurance

AGENTS,

Office, Phenix Row, Second Story, Front Corner Room,

AMHERST, MASS.

FIRE RISKS PLACED IN RELIABLE COMPANIES,

BOTH STOCK AND MUTUAL,

At Rates as reasonable as the nature of the risk will justify.

LIFE INSURANCE

Effected in the Mutual Benefit Life Insurance Company, upon the most favorable terms.

J. H. M. LELAND. E. A. THOMAS.

Make Home Happy by a Christmas or New Year's Present of a Year's Subscription to

SCRIBNER'S MONTHLY.

It costs only $3, and will make two large volumes of nearly 1500 pages, beautifully illustrated, and full of choice reading, each year. Single numbers, 30 cents. For sale by all Newsdealers and Booksellers.

SCRIBNER & Co., Publishers,

654 Broadway, New York.

Job Printing at the Record Office.

Amherst Picture Gallery.

THE PLACE

TO GET

PHOTOGRAPHS

OF EVERY KIND AT REDUCED RATES.

J. L. LOVELL.

W. H. SAXTON,

DEALER IN

Fine Watches, Clocks,

JEWELRY, &c., &c.

Mr. GULDAN gives personal attention to all work. 5 Phenix Row, Amherst.

FURNITURE! FURNITURE!

CALL AT THE

Warerooms of M. M. Marsh,

No. 9 PHENIX ROW, AMHERST, MASS.

COFFINS, CASKETS, and BURIAL CLOTHES, constantly on hand.

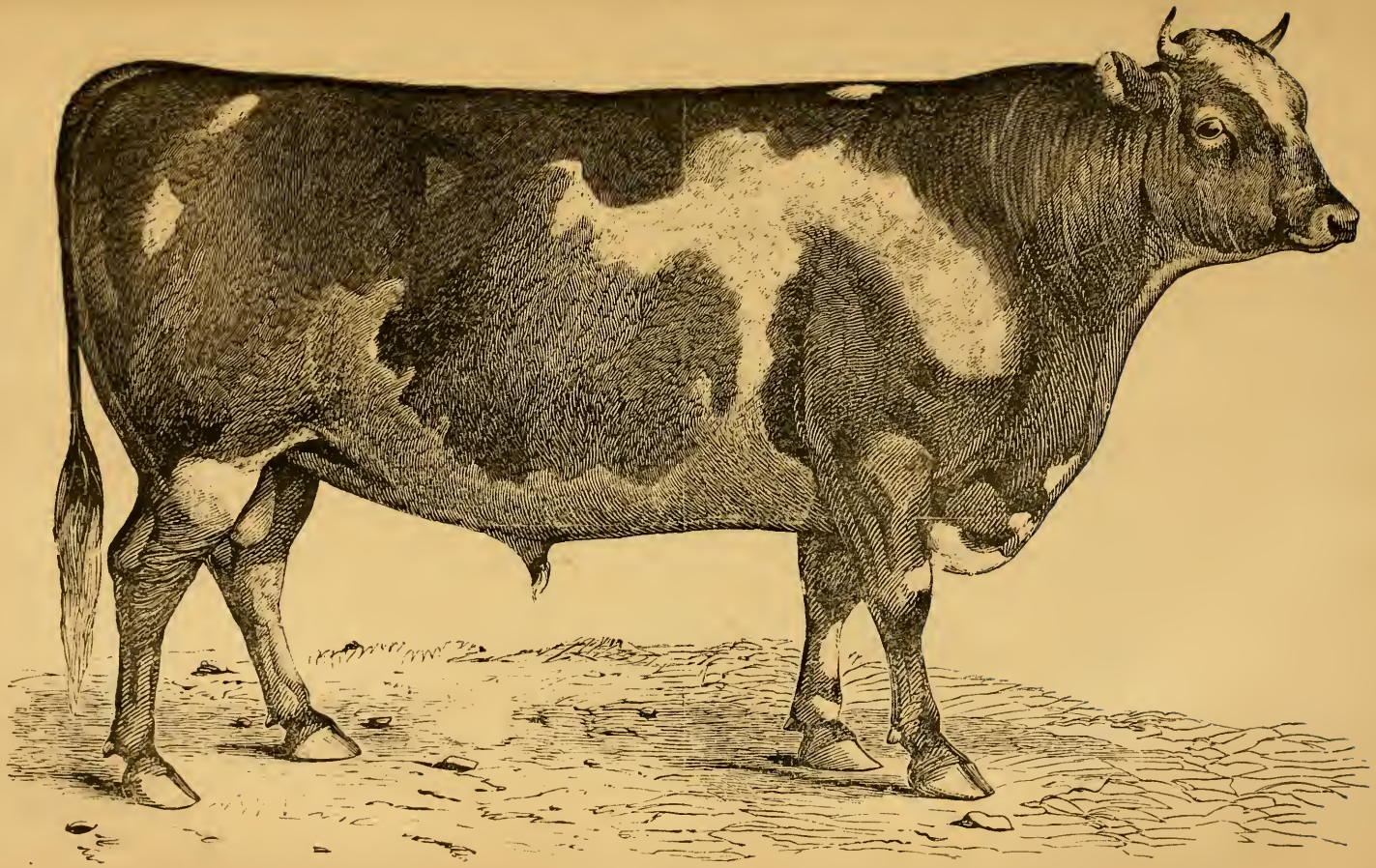
NEW MILLINERY!

Dress Trimmings, and Ladies' Furnishing Goods,

Worsted Goods, Zephyr Worsteds,

YANKEE NOTIONS, FURS, WRAPS, MILLINERY, DRESS AND CLOAK-MAKING TO ORDER.

MISS M. A. HUBBARD, Palmer's Block.



Ayrshire Bull "JOCK." The property of L. A. CHASE, Esq., Northampton, Mass.

This Bull received the First Premium at the Fair of the Hampshire Society, in 1871.

TRANSACTIONS

OF THE

Hampshire Agricultural Society,

WITH THE

LIST OF OFFICERS AND MEMBERS,

AS WELL AS

PROFESSOR CHADBOURNE'S ADDRESS, PROFESSOR PARKER'S POEM, THE TREASURER'S REPORT, COMMITTEES' REPORTS, LIST OF PREMIUMS AWARDED, &c.

FOR THE YEAR 1871.

AMHERST:
HENRY M. McCLOUD, PRINTER AND BOOKBINDER,
1871.

ADDRESS.

UTILIZATION OF LABOR.

BY HON. P. A. CHADBOURNE.

PEACE as well as War has its triumphs and its days of ovation In time of war there are days of review when the hosts are marshalled, not for conflict, but to show what they have done and what they are able to do. Then it is that the brave leader glories in the empty sleeve, and the flag, soiled and scarred by the storm of war, is more honored than the richest silken folds that have never cheered the soldier on the battle field. Every symbol of work accomplished is an earnest of work that will yet be done. But now in the lull of arms, peace marshals her forces out and from time to time brings together the products which she has to offer instead of the mere pomp and devastation of war.

In such a review of her labors, in New England, if in no other portion of the world, we may see what men enjoy under a free government, and what varied sources of enjoyment may be found for every citizen even on this hard soil where frost and drought and rain have each in turn the mastery.

It is a happy thing that toil may be suspended and that no favored class, but the great community, may join together in a grand review of the labors and triumphs of the year. This is the object of Agricultural Fairs throughout our country. They are not simply *agricultural* fairs, though they bear this name, but exhibitions of every form of honorable industry in the section which they represent. The farmers come bringing the finest of their herds and flocks, the housewife spreads the rich products of the dairy and the mechanic brings his wares. Wood and iron and brass and wool and flax and cotton are shown in the thousand forms which civilizaton

demands. The artist brings the product of his pencil, and whole departments of beauty proclaim that we have higher wants than food and shelter, and that cunning hands are busy in our midst to minister to those wants. The young girl, hardly budding into womanhood, and the aged mother whose children have long been men and women, both contend for the prizes. The tables are piled with apples more delicious and beautiful than all the famed fruit of ancient mythology, grapes in richer clusters than Bacchus and all his ancient votaries ever dreamed of. All the fruits and flowers which New England soil can be made to yield, all the handicraft which fertile New England brains can invent, are gathered in these fairs for our admiration and for our profit—for the honor and gratification of those whose care and labor have produced them. These fairs, then, are the grand review days of the great peace forces stationed within our borders, holding the farm houses and villages, the school houses and churches of happy New England.

All these products represent so much toil of hand and brain. The earth has indeed yielded her strength, for all this wealth of fruits and flowers was molded from her soil. Last spring most of them were dirt beneath our feet.

All nature has been in action both to build up and to destroy. And it is because man has lent the energies of his mind and the strength and cunning of his hand to secure the favoring influences and to ward off destroyers, that the hills are filled with flocks and the valleys are covered with corn. If this wealth here gathered is the product of the earth, it is also the result of human toil.

We are ready to maintain the dignity of labor, but it is the product of labor that is the measure of its dignity. There is no dignity in wasted labor. Labor wholly unproductive would become intolerable punishment even to the most industrious. But the hardest toil is lightened when every blow is followed by results, and every blow is honorable that is struck for the physical, intellectual or moral welfare of the human race. Labor becomes dignified just in proportion as it becomes powerful for good, as it yields greater products than the best civilization demands. And all this grand exhibition is to show what means of enjoyment the labor of the year has supplied and how the labor of the coming years may improve such products and give larger returns for the thought and strength expended. The grand problem is to *utilize labor,* that every hour of toil may produce more and better results, as the years pass. The wants of savage life are few and call for little economy

of time or strength. But far different are the demands of civilized life. New wants keep pace with new discoveries and new inventions, till the simple New England home represents skill and labor astounding to one who traces all its comforts and luxuries back through all their processes to their original products. The varied fabrics of the household! How many mills, what complicated machinery and wonderful chemistry do they suggest! The well filled library demands for its production an army of laborers. Every time the frugal meal is spread, we find upon the table the products of other lands only supplied through the discoveries and commerce of civilized nations. A whole nation of savages could not, in a life time, supply by their labor the products in one of our best New England homes—homes the result of the toil of a single civilized man. He has all these sources of enjoyment because civilization has utilized labor, and thus multiplied a hundred fold the powers of a single man. This utilization of labor has still further advanced civilization and thus we have the conditions of progress for the race. Civilization and utilization go hand in hand, mutually reacting upon each other.

And where are found the grand elements of this utilization? Plainly, first in the forces of nature. These forces are guided and controlled by man till they become his never wearied servants. The rains and dews upon the hills gather in springs, leap towadrs the valleys in rivulets, until their combined weight poured upon the ponderous wheel, gives life to the spindle and the loom. The guiding hand of man is needed, but with the aid of this falling water, he draws out a thousand threads as he could but one by his unaided strength. That wheel through which the water plunges by its own weight as it rushes on to find its ocean level, multiplies the labor of all who work above it a hundred fold. It took time and hard labor and skill, indeed, to dam up the floods, to lead them along in canals and to fashion all the wheels and shafting by which their power is transmitted from room to room and machine to machine. But all of this labor is but a fraction of the multiplied power which they give to the service of man, before worn out by their own revolutions.

The forest trees and beds of coal are so much governed strength —strength set free by fire that by expanding steam moves Titanic wheels and levers obedient to the will of man. Calling this power to his aid, the engineer hurls the proud ship against wind and tide and moves the heavy laden train with the swiftness of the wind.

Other and more subtle forces are pressed by man into his service. The mysterious needle that tends ever toward the polar star, guides him in his pathless track upon the ocean. Clouds may shut out the friendly stars, nor land nor light direct his course, but following this unerring guide he passes straight on his way to the desired haven. Danger is thus avoided where the wisdom and skill of man alone would be powerless to direct, time is saved, and the labor of all that go down to the sea in ships is utilized by the magnetic needle. Take from every ship that little finger of steel by which the earth points out the track across her own pathless waters, and the dangers and expenses of all ocean transportation would be double. As though this were not enough of magic, the same force that points the needle, darts from city to city and along the ocean's bed from continent to continent, whispering in every hamlet the news of the morning from every quarter of the globe. The former work of weeks and months is pressed into hours and minutes. It tells us of the coming storm, while yet the skies are fair and winds are still. Chemical force at the command of man unlocks elements held in its grasp, and leaves them free to give their energy to his service. The mingled carbon and nitre fired by a single spark, lets loose the imprisoned gases to change the face of nature and the destinies of nations. With gunpowder, man makes his way through mountains of stone, and shakes the affrighted earth as he tears out treasures from the rocks in the deepest mines. He hurls the messenger of freedom and with thunders of the cannon and bursting shell proclaims the arm of the oppressor broken and the reign of universal liberty and equal laws.

In all these achievements, we see a partial fulfillment of man's destiny when created the possessor and lord of the earth. He was to have dominion over the earth, and created in the image of God, this dominion could only be complete when he had pressed into service all those forces through which the Creator carries on the changes in this physical universe. Not a single force is there now in operation in the earth or air, not a single force or agency has there been, in all geologic time, that man cannot in some way, even now, make minister to his comfort or multiply his power. Every year he enters more fully into this great inheritance. Every year he compels the forces of nature to lighten manual labor. Every year does he gain greater mastery over these unwearied and exhaustless agencies in operation, and thus realize more nearly his likeness to his divine Creator.

But all this utilization of labor, though everywhere apparent in the mechanic arts, has little bearing upon agriculture, you are ready to say. It has indeed much less than it ought. For when dominion was given to man it was that he might till the earth and subdue it. He will forever eat his bread by the sweat of the face, for Agriculture must from the nature of the case ever demand long continued, careful manual labor. And because this is so, every advantage should be seized upon to utilize that labor. Every blow must be made to tell. And to secure this result ignorance and waste must both be banished from our farms.

Unfortunately for us, the need of utilizing agricultural labor has never pressed upon us as a nation. A broad territory, unsurpassed in fertility, and almost boundless in extent, is even now waiting for man to scatter the seed upon it and gather the luxuriant harvests. The great productiveness of the American soil has given a rich return to the rudest forms of husbandry. And where one plantation has been impoverished, an abundance of virgin soil is ever waiting for the plough. The cultivators of the earth have been, like the early miners on the gold fields, gathering the gold ready quarried to the hand. The corn and wheat and cotton have been taken from the soil without return ; but such drafts are sure to be dishonored in the end. The account with the earth must be kept good as well as that at the banker's. The practice of the Agriculturist has too often been like that of the spendthrift, who ruins his credit in one place and then tries a new sphere of action leaving unpaid debts in every town.

The inventor's genius has been brought to the farmer's aid, but the most effective machines are those for sowing seed and gathering harvests, increasing ten fold the farmer's power to rob his soil. In the garden States of the West, this process may be long continued, but every year the product lessens and the robbing process must finally come to an end. We may feed the world with our grain and supply its busy looms with cotton, but in more than one half of our country we do the work by sheer land robbery. Any process that yearly leaves the soil poorer in materials for crops, is unworthy the name of agriculture.

And so it happens that no portion of our country is so favorably situated for the increase and diffusion of agricultural knowledge, as New England. Her soil is thin and rugged, and her climate severe. It is impossible to live by land robbery here. New England soil is no long-suffering creditor. You must make full returns for every

crop you take or your drafts are protested at once. All the conditions of New England life as well as the physical condition of its soil and climate, prevent the southern and western methods of cultivation. A New England farm would hardly be considered a respectable corn or wheat field in the west. Narrowed down then, by the necessity of the case, to a few acres—having a soil that must be carefully manured and tilled to produce a crop—living in a climate where winter reaches far into spring, and early frosts often destroy the finest prospects of a harvest, having all these adverse conditions to contend against, the New England farmer has been compelled to work more with hand and head than any other tiller of the soil in our land. These hard conditions are the secret of the increase of agricultural knowledge among us. The western man wonders where our farmers are found—wonders how we can live—says that New England would have been left to the bears and wolves, if the West had been known to the early settlers. But if he is a man of intelligence, he knows that no where else in our land is the *science* of agriculture so thorougly understood and applied, as among the New England hills and valleys. Had we been shut out from the fertile West, we should have known more than we now do, and New England soil would have been richer and more productive than it is to-day.

But we proudly point to the products that are now gathered in every part of our State, from Plymouth to Berkshire, as proof of Yankee skill in wringing from a scanty soil the choicest fruits and golden corn. Luxuriant crops and the finest of herds and flocks are here on exhibition. And if we have not the abundance of our Western brothers, we glory in our crops as the product of thought and labor.

The time is coming when the deep soils of the West and South will have yielded their superabundant riches, and, like New England, their soil will demand the fostering care of agricultural science. The time is near at hand, when those broad plantations, once growing poorer under the impoverishing curse of slavery, and the rich prairie, starved by years of robbery, will be the homes of busy millions, a crowded population cutting them into small farms, and reproducing in every part of the National domain something of the New England type of life. This is inevitable under those wise laws that, forbidding the entailment of land, subjects it to the chance of sale and division at least once in every generation.

It is not then for New England alone, it is for this great country

of ours in its future that we invoke all the aid that science and skill can render to increase the fertility of our soil and the variety and richness of our products, that within our own borders may be found all that the highest civilization demands, though the rest of the world were sunk beneath the ocean or leagued together in arms against us. And where shall we look for the field of investigation and the line of discovery and invention that shall do for agriculture that which has been done by science and inventive skill to utilize labor in all the mechanical arts? We want something more than mowers, and reapers, and shellers,—something more than improved implements for putting in and gathering crops. Our fruits must be the most delicious, our grains the most prolific, our herds and flocks must be the finest in form and quality. In the improvement of all these lies the farmer's greatest power for utilizing labor. He must know how to secure the most productive soil and how to bring every product to the highest standard of excellence. Just so far as he does this does he render every blow he strikes more effective. But to do all this he must enter a field of more difficult research than the mechanical inventor can ever occupy,—a field requiring the most accurately trained powers of observation and untiring patience. The mechanical inventor can repeat his experiments every day or hour, but the experiments of the farmer often require not only weeks and months, but years, for their completion.

Chemistry, and the laws of vegetable and animal life, in all their relations to the inorganic world, are the intricate subjects that claim his study now, and will continue to do so while seed time and harvest remain. Every new discovery in either of these fields may increase the quantity and quality of his products, or render them more certain. And thus, every year, manual labor on the farm will be utilized so as to secure more abundant returns. Into these fields, New England agricultural science has already been driven. While those with richer lands have but to gather crops from soils teeming with fertility, her farmers must master the very *arcana* of science if they would compete with their more favored neighbors. Every section of the country must, in the main, work out a system of agriculture for itself; but it will be in New England that much of agricultural knowledge will be sought for, when the exhaustion of soils and increase of population make agricultural science the same necessity in the South and West that it now is to us. And New England, sneered at as the land of ice and granite, as not having land enough between her hills for respectable farms, will be

ready to contribute of her abundance in this department, as she has in every other department of science and practical art.

When I say that chemistry and the laws of animal and vegetable life are the means of utilizing labor, I do not introduce subjects beyond the power of every farmer to grapple with successfully. It is not necessary that he should become a Liebig in chemistry, nor an Agassiz in natural history. Such men are pioneers, following Nature into her dark chambers, but opening the shutters so that henceforth all with common eyes may see what those chambers contain. Accurate scientific knowledge is an invaluable basis for all practical operations.

But agriculture must be mainly built up by accurate observation. You may do something to correct your soils chemically by the direct application of materials. But it is mainly the chemical changes produced in the soil itself, that you must rely upon. You must know what draining, what frequent plowing, what change of crops, what all possible conditions will do to prepare the soil for special crops or to secure its general fertility. This knowledge will come from observation and experiment. Simple change of method may so far utilize labor that eight hours may be as good as ten. If turning the furrow in autumn destroys the insect grubs, so that the succeeding crop is doubled, fortunate is the man who knows enough to secure the double harvest, while his neighbor hunts "cut worms" in summer, and lacks bread in autumn. He may not know what species of miller the ravagers will produce, he may not even know that they ever do take wings and fly away, but if he knows enough to so cultivate his land that his crops are unmolested by them, he need not trouble himself respecting the length of their antennæ, the color of their wings, or the name of the author who first described them.

In the same soil one kind of seed will give more bushels than another for the same labor. The seed and earth, rightly related, will save labor, and give to man more time for rest and enjoyment. The fruitful apple, the prolific grains, the choice flocks and herds, all give richer returns for the time and strength expended upon them. In the very law of plant and animal growth are found the means of constantly increased utilization of the farmer's labor. The plants and animals most useful to man have a wonderfully plastic constitution; that is, they appear under different forms known as varieties. So that from nearly all our cultivated plants and domesticated animals there is the possibility of securing choicer kinds

than have yet been known. It is for us to learn all the conditions by which the most desirable kinds are secured, and to be on the alert to preserve them when they appear, that our labor may be turned to the best advantage. What changes for the better have been wrought in New England within the last twenty-five years!

I need not spend time to recount the changes in stock and fruit that have been so marked. And may we not reasonably hope that in this line alone such improvements shall be made for the next twenty-five years that one-fifth more product shall be secured by the same labor than now? If we can secure this result, we have here an important element in human progress, an important condition for the advance of civilization. Leisure will be gained not by stinting ourselves in the necessaries or luxuries of life, but because less labor will be demanded to secure abundance. This grand law of animal and plant variation, which some have fancied to be no law, but a sort of indefinite unfolding of one specific form into another, is here seen to have special relation to the progress of the human race, a relation so specific that if we recognize a creative intelligence anywhere, we must recognize it in the production of varieties, not only as fitting animals and plants to the varied physical conditions of the earth, but as perfecting their relations to man as a progressive being. We may now have the best kinds known, but five years from now we may have better peaches, grapes, and strawberries, better grains may wave in our fields, better flocks and herds cover our hills. Man, capable of unlimited improvement, and with the desire for such improvement, finds Nature perfectly adapted to his constitution.

The cultivator of the soil, though among the most independent, like all civilized men has need of the labors of others. He does his part to support manufactures and commerce. They must give him fabrics in exchange for raw materials and such products as his own soil and climate cannot supply. But utilization of labor demands that every product shall be consumed as near the place of production as possible. The finest wheat may grow so far from market as not to be worth the cost of transportation, and the golden corn may become fuel instead of coal. Every mill, every artisan's shop adds value to the farmer's land in its neighborhood. Every product consumed there is saved the cost of transportation. If we must send our wheat to Manchester and Sheffield and bring our wares from them in turn, there is plainly a vast loss in transportation. Every mile a bushel of wheat is carried adds to its cost but adds

nothing to its power to support human life. A bushel of wheat will bring more money in Liverpool than in Illinois where it grows, but it will not feed the laborer one moment longer in one place than in the other. The amount of transportation and the cost of transportation should be reduced to their minimum. And it is time that we should stop reckoning the profits of transportation as additions to the wealth of the country when they are simply tolls leveled upon the consumer. The less of them the better.

When agriculture and manufactures of every kind go hand in hand, the labors of both classes will be most perfectly utilized. There will still be a vast field for commerce in transporting from land to land and place to place those products which cannot possibly be supplied upon any one spot. Do what we will, New England must depend upon commerce for some of the necessities and many of the luxuries of life. She must import her coal, her teas and tropical fruits, her mills must be supplied with cotton from a more genial clime. The same may be said of every civilized country in the world, it must seek beyond its own limits for the products peculiar to other lands. But every country is false to itself when it heedlessly becomes dependent upon foreign nations that may any day become hostile. And above all other nations in the world, would it be folly for us to pursue such a course as to leave us dependent upon any foreign nation for a single substance, be it raw material or manfacture, that is needful to us for the fullest and most vigorous national life.

Not only does utilization of labor demand intelligence to direct, that every blow may be struck to the best advantage, but it demands virtue in the individual and the greatest simplicity and freedom in our government. Every jail, every prison, and almshouse, is a draft upon the honest labor of the community. The criminals and all who are needed for their keeping are so many transformed from producers to consumers. Every vagabond must live. Every thief, and every lounger, every one who lives by vice or by pandering to vice, makes more hours of labor and harder toil a necessity for every man who lives by honest labor. Honest laborers must not only produce enough for themselves but they must support the vile. When virtue has so far prevailed, that all men work with hand or head, labor will be lightened and the hours may well be shortened.

The curse of war is another great consumer. Destroying everything in its pathway—producing nothing, and yet when invoked for

a nation's salvation, we hail it as a blessing though flames and ruins are the success of its march.

For us as a nation, the brightest future is opening—We have freedom, the first great incentive to labor. With this, there goes virtue and intelligence to render that labor most effective. Wealth must accumulate from our mines of precious metals, but more than all, from the products of our soil. In days of ignorance and oppression and vice, labor must be long continued and exhausting. But if we are true to ourselves, every year will lighten labor and shorten its hours. And we call upon all those who would lighten the burdens of the working-man to join with us to secure the conditions that shall double the efficiency of every hour of labor. If every man would do his share and there were no reckless waste of property, the hours of labor would be diminished without the aid of law. Begin, then, first of all I say, to secure the conditions of diminished labor. Every school established, every criminal reformed, every idler made industrious, every plan of sound economy in the household, every treaty with foreign nations that averts the danger of war, every workshop that supplies at home what was once imported, either removes a burden from labor or gives promise of its removal.

See to it, then, that there shall be peace within our borders. It will be long years before any foreign nation will indulge in the costly pastime of measuring swords with us. If we are true to ourselves and the principles of freedom and justice, no more hostile troops will tread our borders till the present generation has passed away, if ever. *See to it* that vice meets a swift punishment that virtue may enjoy its own in safety. *See to it* that education is everywhere provided for the young,—education that shall guide and quicken industry, that shall enable the farmer and artisan to press Nature's forces into their service. See to all this, and you have done what no laws can do ; you have made all producers, you have multiplied your powers by the agency of falling water and expanding steam, you have stopped all useless destruction of products. Labor is utilized because every blow is turned to the best advantage, and every product rightly used. It may be impossible to reach such a happy state of society, but it is something to be aimed at. New England is already on the road. She has but to be faithful to the church and the school-house, to her wise system of agriculture and manufactures and commerce combined, and she will continue in the van as she has thus far been. It is not too much to say that

the farmer and artisan of New England can command to-day the comforts of civilized life and all that is desirable for a man as a physical and intellectual being as fully as the farmer and artisan in any portion of the world. New England has but just begun to understand her own capabilities, but the brain and hand are both at work. Her streams must not hurry on to the ocean without saving human labor every foot that the water falls; her soil must yield its riches to the intelligent, scientific husbandman; virtue, and intelligence, and love of freedom must be the legacy which we all bequeath to our children. We shall then become a blessing to the world, lightening the toil, and cheering the hearts of honest laborers in every part of the globe.

POEM.

FARM-WONDERS.

BY PROF. H. W. PARKER.

My theme is wonder; and where does wonder dwell?
On fiction's page, or in some enchanter's spell?
In caverns of spar, in hills of silver and gold?
In tropical wilds, or the wastes of arctic cold?
Lo! here and yonder and everywhere it abides,
Lurks by the highway and all around us hides—
Nay, stands in full view, regarded not by the blind,
Who lack the thousand eyes of a studious mind.

These towering trees, and the blessed fruits or grains—
Burn them, and only a mound of ashes remains;
The tons of water took wing and vanished in gas.
Truly a sea is your meadow of waving grass.
And the forest monarch that lies in slow decay,
Blackening to mould—it is verily burning away
With a heat that never in roaring flame appears,
Only because it is spread through a hundred years.

This field of tubers—the food of the Emerald Isle—
What wonder is here that can a moment beguile?
Plant of a marvelous family!—cousin, indeed,
To a herb of bad reputation, the nicotine weed,
And to three of the deadly drugs the doctors know,
And the fiery peppers our grandmothers used to grow,
'Tis the egg-plant's brother, its sisters the bitter-sweet
And a maidenly flower or two that we love to greet.

But see that broad-winged insect, with buttons of gold—
Two rows on his black tail-coat, like a soldier bold!
Do you know he is stingy of buttons to his wife,
And was fond of your parsnips in his early life?
And there is that innocent-looking one in white,
With tips of black that are barely seen in his flight—
Do you know that he came from Europe a while ago,
And his children will eat your cabbage sprouts by the row?

And there are the birds—the restless noisy wren,
That scolds all day like a little lunatic hen—
Know you, my fussy friend, that it soon wears out,
For it lives but three short years, or thereabout.
And then your horses and swine—why, who would suppose
They are classed with elephants,—smaller, short in the nose,
But flexing that feature in quite a handy way,
To search the ground, or to pick and mumble the hay.

The outcrop of sandstone, here on your valley farm—
A very bad crop to raise—lo! here was an arm
Of the ocean, and then the rock was muddy shore,
By feathered reptiles tracked—prize poultry of yore,
So large that if sold at the present market rate,
Any one would have bought a set of silver plate;
And a dozen eggs, if whipped to a cloud of foam,
Would have frosted a cake as big as the Capitol dome.

Evening descends, and the bright day's work is done.
How strange to know the metals that boil in the sun;
And to learn that the red waves only struggle through
At sunset, because they are largest; and, that the dew
Never falls, as we say; and why we hear the sound
Of far-off water at night, when the air is damp;
And why, in yon orb that glimmers, our nightly lamp,
The air and oceans were long since lost in the ground.

But, say not that science dissects and pickles the face
Of beautiful Nature, forgetting her sweetness and grace.

The lens reveals the sculptured waves of a pearl;
The student of curves delights in the billow's whirl.
There are infinite lines in yonder mountain blue,
And infinite mystery hides in its tender hue;
And to him who understands, there's infinite charm
In the tints and flowing sweep of the homeliest farm.

Shame that a wonderful world, which God designed
To be the first primer for man's immortal mind,
Should never be learned—not even its alphabet,
That shines in all forms and colors of beauty set.
Sad—sad, that to many the joyous knowledge is lost
That glorifies labor and richly repays the cost.
Come, friend! study books and Nature; open your eyes,
And live the life of eternal happy surprise!

REPORTS OF COMMITTEES.

FANCY ARTICLES.

The display of fancy articles was unusually large and rich, according to the prevailing ideas, and the lady exhibitors deserve much praise for their industry and public spirit. Among the novelties were thread-lace made in Amherst, worsted work by a blind girl, and a splendid piece of Chinese embroidery loaned by the President of the Society. The Fine Arts did not lack good specimens of wax flowers and oil painting.

Your committee, however, have long been seriously exercised in mind concerning the style of fancy work and domestic manufacture, that gives tone to Agricultural Fairs. In the first place, the Evean mind runs almost exclusively to worsted work, (especially lamp-mats) crochet, patch quilts and rag carpets. In the second place, there seems to be little besides a mere mechanical imitation of copies and patterns,—few or no attempts at originality. Thirdly, as a consequence, there is much idle industry, which almost deserves the name of sin. Fourthly, as another consequence, there is a monotonous repetition that makes each successive Fair like its predecessors, and thus lessens the interest of such exhibitions. Finally and chiefly, the Evean mind is not developed and improved, as it should be in this age of art, education and progress.

Your committee are aware that a great superfluity of lamp-mats may be accounted for simply on the score that they are passports to the Fair. In respect to rag-work, we could be reconciled, if we could be persuaded that it does not cost more in material and time than it is worth. A quilt, also, that does not aspire to an infinity

of pieces, may be a household treasure of memories, as preserving fragments of dress that have precious family associations. And it is granted, in regard to originality of design, that the many cannot be expected to be creators of art.

Still, your committee are of opinion that something can be done by the Society to freshen and improve the departments of Fancy Articles and Domestic Manufactures, namely, by offering more discriminating awards and premiums.

First, inasmuch as form and color are fundamental to all excellence in fancy work, and enter largely into the useful, high premiums should be given to drawing and painting, and very high premiums to transcripts made directly from Nature.

Secondly, High awards to the best essays by ladies, on the subject of these two departments of the Fair, or any topic involved therein.

Thirdly, High premiums to any work of original idea and design, if good,—no premium being accorded to monotonous repetitions and common copies.

In the Fancy department this year, there was a case of butterflies, creditable to the collector's skill. The insects were not scientifically arranged, nor labeled—at least not so as to be read. There should be a Natural History Department of the Fair, with high premiums for the best, and best classified and labeled collection of anything in Nature, with special prizes to whatever illustrates economic science, for example: beneficial and injurious insects; different species of wood, rough and polished; samples of soils, peat, and fertilizers, with analyses; mounted skins and skeletons of remarkable individuals among domestic animals, or breeds, etc., etc.

In the Fancy department, novelties might be introduced by holding out encouragement to those who should cultivate foreign arts of design. As a nation we pay large sums, for instance, to Switzerland, for wood-carvings in the shape of articles of use and elegance, or children's toys,—made by peasants of that country in hours of leisure.

Respectfully submitted,

H. W. Parker, *Chairman of Committee,*

MILCH COWS AND HEIFERS.

Bewildered by the number and singular excellence of the entries in every class, charged with labors which would have afforded full employment for three committees at least, and having to perform the greater part of their work in a drenching rain, your committee will be agreeably surprised if their decisions are more satisfactory to the competitors than they are to themselves.

The fact that the regulations of the Society as to statements, were very generally disregarded, also added to our perplexity, and told fatally against those animals which had not either great apparent merit or high public record to sustain them.

To illustrate. The old brindled native, whose own age and that of her youngest offspring are alike unknown to your committee, may, in her sphere, be a more estimable animal than Empress 2nd in her lusty prime, and exhibiting in perfection the double aptitude for beef and milk for which her family are remarkable ; more estimable even than Dolly Dutton, a somewhat unusual type of an Ayrshire, but a singularly perfect type of a prime milch cow ; than Petty Pet, whose weird beauty, matchless lineage and personal excellence have been celebrated through the length and breadth of the land ; or, lastly, than Gem 3d, whose record on poor pasture shows, a daily product of 10½ quarts of milk, yielding 16 per cent. cream ; and whose mother *(see Devon Herd Book)* is authoritatively stated to have made 2¼ pounds of butter a day. This old Brindle may, we say, in her sphere, and according to her advantages, have been a more estimable animal, or to put the matter in a business light, may have been a more profitable machine for converting hay, grain and roots into currency, than these or any other of the well clad, well bred and well fed dames with whom she has entered to contend. But, if this is so, how are we to know it? We recall the proverb of the singed cat—we reflect on the folly of judging from appearances—we pause lest we should unwittingly insult a fairy in disguise, or repel an angel unawares—and then, we take old Brin-

dle to point a moral, feeling quite unable to see how, in her present condition, she can be said to adorn a tale.

The show of Durhams, by Messrs. Judd and Bates of South Hadley, was simply superb. In high flesh, their magnificent udders, extended mirrors, and swelling milk veins bore unmistakeable testimony to the qualities of these stately Yaricos and Empresses as dairy cows.

In condition, the Short Horns belonging to the Agricultural College would compare favorably with the other breeds and grades of cattle on the ground ; but they were in this respect far behind the South Hadley Short Horns. In fitting stock for exhibition or for the butcher, it is the last quart of meal that gives the greatest profit ; and to no class of cattle can the last quart be fed so often or so profitably as to the improved Short Horn.

The collection of Ayrshires was large and of unusual quality. Mr. Chase of Florence, and Mr. Sweetser of Amherst, are good warrants for the quality of their stock : and the Agricultural College points with pardonable pride to old Beauty, imported by Mr. Sweetser in 1855, and still hale and hearty ; and traces the pedigrees of her grand-daughters, great grand-daughters, and great great grand-daughters, through sires of repute from the herds of Hungerford and Brodie, Lyman, Peters, Birnie, and Walcott and Campbell.

The little Ayrshire cow presented by Prof. Stockbridge, was stated to have given an average daily mess of 13 quarts of rich milk for nearly four months. This is a large yield for so small a cow, but her appearance fully corroborated the statement.

Mr. M. F. Dickinson presented two beautiful little Ayrshire cows of the celebrated Peter's strain ; but, owing to hard keep before Mr. Dickinson bought them, they are inferior in size, and among so many competitors the smallest defect is fatal. Their improved appearance since they came into Mr. Dickinson's hands, speaks well for that gentleman's skill and attention to his stock.

Mr. Watson showed his large and very beautiful Ayrshire cow Tulip 4th, with bull calf, by Colfax (127,) by her side. Her bag was of enormous size, and one quarter at least seemed badly caked. This was her misfortune, and probably not her owner's fault ; still it was a defect, and we could not award her a premium.

In Devons, the Agricultural College showed two cows, each with a promising daughter by her side. Gem 3d is a worthy daughter of Gem (134) already referred to. Easy to keep, hardy, docile, always

in comely condition, of good size, with absolutely perfect udder and teats, giving steadily with her first calf over ten quarts daily of very rich nutty milk, for profit we would select Gem as the type of a herd before any cow we ever knew.

Winona 2nd is even more beautiful than Gem, and rivals her in every other good quality, except that Winona's milk, with her second calf, never exceeds six quarts a day. In quality, however, her milk is very superior, yielding by the lactometer 19½ per cent. of the very toughest, yellowest cream.

Enid and Pixie, respectively five and fourteen months old, are striking examples of the fidelity with which the Devon form and color are transmitted from generation to generation.

In Jerseys, the show was select rather than numerous. Mr. Chase's cows, Petty Pet and Melissa, as acknowledged standards of high bred and fashionable Jerseys, of course took the first premiums. Petty Pet is one of the most striking cows we ever saw; but there is something "*spirituelle*," almost "uncanny" about her lean face, prominent eyes, and down growing horns, which makes it a relief to turn to Melissa, in whose restful countenance every cowlike virtue appears more plainly the longer you study it.

Deacon Nash's cow was of good size and an admirable example of the earlier importations of Jerseys from which she is descended.

The two Jersey cows offered by the Agricultural College, were strong in the peculiar excellencies of their race; both yielding a fair mess of rich milk, and holding out till nearly or quite the time of calving again.

The show of grade cows was numerous and excellent, and clearly showed the influence of pure bred bulls judiciously crossed with native stock.

The first prize was awarded to Mr. G. S. Cooley of Sunderland, for a fine red and white cow, six years old, doubtless closely related to the Short Horns, and also suggesting a distant connection with the Ayrshires. Her record stated that she had given 239½ pounds of milk, and made thirteen pounds and two ounces of butter, in seven days, and your committee fully believed it.

The cow offered by Mr. Fearing was probably the produce of a Jersey bull on a high grade Short Horn cow, and was evidently a very superior animal. She looked fully up to her record of sixteen quarts a day; and her appearance amply confirmed the testimony offered of the superior quality of her milk.

Mr. Bela U. Dickinson's cows were model animals, and showed

perceptible traces both of Devon and Durham blood. They were such as we should select for quality as well as quantity of milk.

The last remark applies also to Mr. Watson's cows offered for premium in this class:—a magnificent grade Durham, ten, and a very fine looking grade Jersey, nine years old, and both in the very plenitude of milky development, being specially noticeable.

In fact, most of the stock exhibited in this class, were of rare merit, and their points of excellence, although entirely distinct and peculiar to each animal, were so evenly balanced, that your committee decided to award the premiums in proportion as the competitors had more or less strictly complied with the requirements of the society.

What has been said of native and grade cows entered as individuals, applies equally to those entered in herds. Everywhere we observe the influence of the pure breeds mixing together and blending the peculiar excellencies of each with the constitutional vigor and practical self-helpfulness of the native. Everywhere we see promise of a class of cattle, "native and to the manor born," which in varying proportions, and according to the wants and conditions of different individuals and sections, shall unite the size and symmetry of the Durham, the deep milking qualities of the Ayrshire, the docility and plumpness of the Devon, and the inherent faculty for butter making of the cattle from the Channel Islands and Brittany.

After as careful examination and as deliberate consideration as time and the weather would admit, your committee have awarded the first premium to Mr. Watson and the second to Mr. Hibbard.

There were twenty-six entries of heifers of the leading breeds, and their grades. Every one of these young animals was deserving of high commendation, and collectively they bore eloquent testimony to the growing interest in stock breeding. In numbers, the Short Horns and their grades, took a decided lead; while the Ayrshires, Devons, Jerseys, and Guernseys, although fewer in number, and less in size, were equally remarkable for excellence in the distinctive properties of their respective breeds.

Among so many beauties, it is a disagreeable task to particularize. Suffice it to say, that unmistakeable promise of superior milking qualities, united with large size and perfect symmetry, the result of generations of skillful breeding, generous feeding, and unremitting care, decided us to award the first and second premiums to the Short Horns of Messrs. Judd and Bates. The third premium was

awarded to Mr. Chase for the beautiful Ayrshire heifer Cora 2d. The fourth to Mr. Edmund Smith of Hadley for a very large grade heifer of singular quality, and the fifth to Mr. Bates for a yearling Short Horn of surpassing beauty and promise.

No premiums were offered for heifers over three years old; but the extraordinary merit of Empress 3d and Yarico Beauty, exhibited by Mr. Judd, induce us to commend them to the Executive Committee, as fit subjects for special premiums.

Conscious of an honest intention and diligent effort to do justice to all, your committee cannot and do not expect that their awards will give universal satisfaction. They would therefore repeat that the entries were numerous and of unusual merit, that their time was limited, and that the weather was singularly unfavorable for deliberate examination and critical comparison. They also feel satisfied from the personal character of the exhibitors, that all feelings of disappointment, if such there should be, will be forgotten in hearty public spirited rejoicing that so fine a display of stock should be brought together at Amherst, to attest the skill and energy of the farmers of Hampshire County.

In addition to the award of premiums it has become the custom to expect from committees a few remarks pertinent to the matters assigned for their consideration. In trying to perform this part of our duty we may often seem to state our opinions as facts. Such arrogance is quite unintentional; we therefore beg the reader to supply "we think" or "it is our experience," where such qualifications are omitted from a necessary regard to brevity.

We are often asked "What is the best breed of cows for profit?" There are good, bad, and all intermediate qualities, of all breeds. Still a consideration of the circumstances under which, and the purposes for which, the leading races of cattle have been bred for a longer or shorter time, will materially aid us in deciding whether animals of this or that breed are adapted to our circumstances, and calculated to fulfill the objects we have in view.

For symmetry of form and beauty the high bred Short Horns are unrivalled. In quality or the capacity for profitable production of beef and milk, there is a wide difference between individuals and families of this breed. The Short Horns appear to have originated from a cross of Dutch bulls on the native cattle of the north of England. From this mixture, and in the hands of skillful breeders, who aimed at the improvement of stock for practical purposes, a class of Short Horn cattle was established about the end of the 18th century

which united in an eminent degree the character of great milkers, quick feeders, and of attaining to great size. Attention being called to these qualities by the Messrs. Colling and others, the Short Horns have since commanded very high prices; and have, to a great extent, been kept by comparatively inexperienced parties, as mere fancy stock, and have been bred for sale, and without any care to develop or even to retain their useful properties.

At the same time, many gentlemen, and some ladies, of good judgment and ripe experience, have successfully exerted themselves to retain and improve the noble qualities for which the breed has been so highly esteemed. The results of these widely different courses is, that while some families of Short Horns continue to give a large flow of rich milk till far advanced in pregnancy, and display a remarkable tendency to lay on flesh; others cannot even suckle their own calves, and are only kept in show condition by extravagant and unprofitable feeding.

The Ayrshires are a breed of dairy cattle which appear to have originated from a cross of the Short Horns, at the time when this race was more generally distinguished for milking properties, on the original stock of the county of Ayr. They have also been credited with an infusion of Jersey blood, and this supposition appears to be borne out by the light stripe round the nose often noticeable in Ayrshire calves.

Whatever their origin, the natural result of judicious breeding, and selection for purposes of practical utility, for nearly a century, has been to establish a race of cattle, which for yield of milk, in proportion to their size, are absolutely unequalled.

As might be expected from their mixed origin, and the somewhat unsystematic way in which they have been bred, we find a great diversity in the form and general appearance of the Ayrshires. There is however a striking uniformity in those qualities for which they are chiefly valued. Most good milch cows have big bellies to hold the materials for filling big udders, and to obtain these materials in most of our New England pastures, requires a high order of energy, muscular activity, and endurance. In these qualities the Ayrshires are pre-eminent. They are essentially a working class, and ten of them will keep in fair condition and yield a good mess of milk in pastures where five larger and lazier animals would almost starve to death. The same hearty appetite and vigorous digestion which enable them to secrete large quantities of milk, are readily diverted to the formation of flesh.

As a class the Ayrshires are somewhat under the average size. They are usually allowed to come in at two years old, and from that time until they are dried up for fattening, they are subjected to a severe and constant strain on their powers in the production of calves and milk. By liberal feeding during their youth, and by allowing their system a longer time for development, they are readily brought to a full average size.

The Devons are a race of cattle which have existed without adulteration or mixture with other breeds from time immemorial. They have been much improved by careful selection, but the efforts of breeders have been directed chiefly to developing symmetry, aptitude for fattening, and early maturity, with little or no regard to their milking qualities. Their milk is very rich, and the butter made from it is of very superior quality; but in the quantity yielded there is a wide difference in individuals and families. By judicious selection and skillful treatment, a class of milking Devons might doubtless be created which for satisfaction and profit could scarcely be equalled. Probably this has already been done; but of the race at large the distinctive merits appear to be extreme docility, quickness and endurance as working cattle, uniformity of appearance, symmetry, and a remarkable aptitude to fatten on moderate keep. This latter quality is indicated by a certain mellow, elastic feeling of skin and hair; and in this property, called "handling," the Devons, as a class, are unrivalled.

The Herefords resemble the Devons in many of their essential features, while they approach the Short Horns in size. Bred chiefly for beef, their milking qualities are variable and unreliable.

The Alderneys and Jerseys are a race which, time out of mind, have been bred and kept on these islands for the production of milk for butter-making. In appearance they support the Darwinian theory, by forming a link between the ox and the deer. The calves especially, if starting up suddenly, amid suitable surroundings, might easily be mistaken for fawns. The properties for which these cattle are valued, are a peculiar grace and beauty, which, however, are apt to commend them to ladies and amateurs, rather than to practical stock-breeders, an exceeding gentleness, and fondness for being petted, a remarkable faculty for converting fodder of all kinds into a very buttery milk, and last, but not least, such a habit of holding out in their milk, that though their highest daily yield is exceeded by cows of some other breeds, there are comparatively few which, take the year round, will give a better return for the food consumed.

The Jerseys, like the Ayrshires, are, as a breed, under the average size. The cause and remedy for this have already been suggested.

The Guernseys are somewhat larger and coarser, but closely resemble the Jerseys in their essential features.

The Brittannies are a breed of small black and white cattle, recently introduced by Hon. Charles L. Flint, and which appear to unite in a singular manner many of the best qualities of the larger breeds. The symmetry of the Short Horn, the milking qualities of the Ayrshire, the gentleness and capacity for butter-making of the Jersey, are all presented in such a condensed form, that Empress, at three years old, in high condition and with calf, weighed only four hundred pounds. This dwarf habit will, however, probably disappear under favorable conditions of food and shelter. The bull Upton, (a son of Empress,) presented to the Agricultural College by W. Knowlton, Esq., is now six months old, and weigh 384 pounds only in good condition. He is a perfect model of symmetry and courage.

In striking contrast with the little Brittainies, are the Holsteins, a breed of large black and white cattle imported by Winthrop W. Chenery, Esq., of Belmont, and since by other parties. The inhabitants of North Holland and the adjacent provinces have long been famous for the possession of a superior race of Short Horned milking cattle, which it is claimed originated in the duchy of Holstein ; and Dutch energy and perseverance have been successfully exerted to fix and increase their valuable properties. These properties are precisely what we should expect as the result of judgment and experience in breeding, and care and skill in managing, combined with the most favorable conditions of soil and climate, viz : large size, symmetry second only to the best improved Short Horns, an extraordinary capacity for milk, and a proportionate aptitude to lay on flesh when dry. The milk of the Holsteins is rich in casein, albumen, and sugar ; it also contains a full average per centage of butter ; but it is lacking in the tendency to separation which, in twelve hours converts Jersey milk into cream and blue water.

It is objected that they are ill suited to our climate and conditions : and truly, the Texlaars, Lady Midwoulds, and Maids of Opperdoes, are not precisely fitted to pick their living on a barren hill side, or to stand the winter without other food or shelter than a stack of bog hay. But the drift of public sentiment is so strongly in favor of liberality and attention to the wants of

stock, that we feel sure the majestic Holsteins will find a broad field and a warm welcome in New England Agriculture.

Of the breeds which have been introduced, but which are not known to have made any appreciable mark on American stock, we may enumerate the Swiss, imported by Mr. H. M. Clark, of Belmont, in November 1869, a striking looking and probably useful race of dairy cattle; the Kerries which seem to possess many of the good qualities of the Brittannies, but lack in symmetry and uniformity of appearance; and the Galloways, whose specialty appears to be hardihood, and ability to produce excellent beef in cold and exposed situations.

With this brief glance at the distinctive characteristics of the several breeds, we pass to the question, "*In what respect are thorough bred animals superior to natives and grades?*" Chiefly in the ability to reproduce themselves when mated with animals of their own breed, or to stamp their distinctive excellencies with peculiar force on the robust constitutions but unsettled tendencies of the mixed breeds. Indeed, an especial mission of the pure breeds appears to be the production of bull calves; and they often pursue their vocation with a fidelity extremely disgusting to their owners.

The qualities of a good milch cow are patent and unmistakeable; and if such an one be coupled with a bull of a pure milking race, her progeny will rarely disappoint the reasonable hopes of the breeder; but if a grade bull be used, the progeny will like as not resemble a scrub ancestor, raised because his mother could not fatten him, and used because his services could be obtained at the lowest possible rate. We once bought a handsome and excellent grade cow with calf by a good looking grade bull; and, allowing for a little poetic exaggeration in the matter of the dewlap, the produce was a literal copy of Virgil's portrait of a stock cow. For breeding working cattle, says Virgil: "The best form is that of the fierce looking cow, with coarse head, and thick neck, and dewlaps hanging from her chin to her shins. Her side immoderately long; all her proportions are massive, even her foot, and her shaggy ears under inbent horns. All the better if she be streaked and spotted with white, or fractious, or ugly with her horns, and more like a bull in the face, and pretty hateful generally, and she sweeps the ground with her tail as she steps along.

Our heifer proved utterly worthless for milk, but some of the neighbors thought she would breed splendid oxen.

While advocating the use of pure bred males, we would emphatically denounce the idea that all animals of a particular breed are of equal merit, or that a herd-book pedigree is of itself a satisfactory proof of a bull's fitness to perpetuate his race. The best systems are liable to abuse ; and many a miserable rickety calf is raised because it is thorough bred, which, if only a grade, would meet with a fate more in accordance with its deserts and the interests of the community.

Such animals are constantly to be found in the hands of characterless jobbers and inexperienced fanciers. Nobody keeps them long, but as they will usually command a price somewhat above their value for beef, they are passed from hand to hand, to multiply their infirmities, and to bring disgrace on the breed to which they pretend to belong.

Another evil resulting from the breeding of pure bred cattle for sale, is the practice of letting the calf suck its dam for a shorter or longer period, after which, the cow is suffered to dry up, to keep her in show condition, and for the benefit of the succeeding calf. This inevitably diminishes the milking capacity of any cow, and if persevered in must reduce even the best milking race to the normal condition of only giving sufficient milk for the temporary nourishment of its offspring. In selecting stock for milking purposes, it is therefore important to consider, not only the breed, but the individual qualities of the animals and their immediate ancestors, and also the treatment to which they, respectively, have been subjected, as far back as this can be ascertained.

This, in a measure accounts for the very different prices which animals, apparently of equal merit, command, according to the skill and reputation of their owners. One man's name is a guarantee of a long succession of the best blood, without blemish or imperfection ; while another stamps every animal which he owns as defective in quality, or descent, or both.

Mr. Augustus Whitman, of Fitchburg, furnishes a fitting illustration of the former class of breeders ; and the energy and system which he brings to bear on all his undertakings, well deserve admiration and emulation. Notwithstanding that his movements are impeded by severe chronic lameness, he ably superintends a very large manufacturing business ; and for relaxation devotes an amount of thought and attention to the breeding of improved stock which would in itself severely task the powers of a mind less vigorous or less evenly balanced. Unlike the man who had such a big pile of

wood to cut up that he could not stop to have his saw filed, Mr. Whitman is never hurried or fretted by his work, and his herd of Short Horns are just what such a man might be expected to own. Starting with the conviction that a union of great milking capacity with the properties of symmetry, early maturity, large size, and quick feeding, is possible and desirable, he has brought to bear both skill and capital to illustrate his theory ; and he has now confessedly the best herd in New England, while he is doing much, very much, to diffuse correct ideas on the subject of breeding. Fully recognizing the two important axioms, that like produces like, and that, especially for purposes of reproduction the best is always the cheapest, Mr. Whitman has filled his stalls with worthy representatives of the best herds in the country, and a like judicious liberality is perceptible in his selection of assistants to whose care these valuable animals are entrusted. But the feature in Mr. Whitman's management to which we wish especially to call attention, is the thorough, business-like record which he keeps of all matters relating to his stock. Their marks, age, pedigree, couplings, produce from first to last, and, what is most unusual, the quality, composition and cost of their food, and their daily yield of milk, are all systematically recorded and can be instantly ascertained, and precisely stated. The value of such a register for a breeder's own guidance, for the satisfaction of purchasers, or for the information of the public, can scarcely be over estimated.

Mr. Whitman's partner, Dr. Miles, has a large herd of Ayrshires ; and the quality of his herd, and the fullness and precision of his statements, clearly show that his management is characterized by a like methodical care and good judgement.

To turn from these pleasant pictures to examine the practice of Messrs. Gammon, Snap & Co., is no agreeable task; but the illustration of our subject requires it.

In the purchase of stock their first requisites are cheapness and a pedigree. They have lots to say about the aristocratic lineage of their herd, but it is usually difficult to trace the family likeness, and in the pedigrees there is often a lamentable hiatus of a generation or two, bridged over with animals bred no one certainly knows how or by whom. If the cows are with calf, and you ask the date of their service, Michael is appealed to, and after mature consideration fixes the period by reference to an interesting circumstance which occured about a fortnight or three weeks before Owen Flannigan's wake ; but whether this latter occasion was celebrated in March, April or

May, is more than "the body o' me knows." The calves are coarse or rickety, or feeble, or deformed, and even if some of them look plump and fat, their condition is no credit to their dams, whose milking qualities are evidently of the most meagre character. The bull and heifer calves run together till the impropriety of their doing so is very fully proven. A discreet silence is observable as to the character and fate of the earlier produce of the cows, but the neighbors say that their first progeny were sired by a scrub bull which shared their pastures. In short, on every side, we may observe marks characteristic alike of the cattle and their owners. Mean shapes, coarse heads, broken noses, harsh wiry hair, hard thick hides, vicious tempers, chronic tendencies to abortion, poor milkers, defective udders, and ignorant and brutal attendants, tell unmistakably of want of judgment, niggardliness, and unprincipled dealing.

Between the two classes we have described, there are numberless gradations of skill and honesty and their opposites; but we are satisfied that the market reporters' stereotyped comment, "the price depends mainly on the fancy of the customer," applies with far more force to the lower than to the higher classes of thorough bred cattle.

A growing pile of manuscript warns us that our hobby has carried us far beyond the usual limits of a report. We cannot however leave this subject without expressing our conviction that the ability to yield an abundant supply of good milk is a prime requisite in a cow for New England ; that a superior faculty for milk is by no means incompatible with an equal aptitude to lay on flesh when dry; but that the two are often united in animals of healthy constitutions, hearty appetites, and good digestions ; and lastly, that the milking faculty is found in individuals of almost every breed, and by judicious breeding and skillful treatment may be rendered a fixed and reliable property, without the sacrifice of any of the valuable qualities for which the several breeds are at present esteemed.

Small space is left for the important consideration of the treatment of stock. Fortunately this may be summed up in a few words Good and abundant food, comfortable shelter, proper ventilation, regularity in milking and feeding, cleanliness, and kindness, these six ; but the greatest of these is kindness. The charity on which Paul insists in his letter to the Corinthians, "for which sarch the Scriptures, and when found make a note of it," is only another name for the kindness we would urge on all in their intercourse with domestic animals. To attain the highest degree of satisfaction and success in the management of stock, requires a careful study of the

nature, wants, and condition of animals which comparatively few think it worth while to exercise. Many indeed seem to think, that by providing food and shelter for their stock, they are entitled to an abundant return in money value, and also an implicit obedience to demands which are opposed to an animal's natural instinct and inclination, and which they (the owners) do not trouble themselves to adapt to the animal's comprehension. Failing to obtain this, they appear to regard their stock as a lot of rebellious subjects, ever seeking to thwart their reasonable wishes, and only to be controlled by harshness and severity. Now this is all wrong, and is productive of serious loss and vexation to owners, as well as detestable cruelty and oppression to the poor brutes.

The fundamental principle in Mr. Rarey's theory, that *a horse will not offer resistance to any demand which he fully comprehends, if made in a way consistent with the laws of his nature,* applies with equal force to almost all classes of domestic animals. Cows, especially, appreciate and repay kindness and sympathy in a way which none but those who have studied their conduct and disposition can fully understand. They will answer to their names, come when they are called, submit to be handled or examined, and welcome the approach of a kind and gentle attendant by unmistakable tokens of pleasure and affection. Nay, more, they will submit to an almost incredible amount of pain rather than to hurt or disturb those whom they believe to be solicitous for their good. We have often been called on to milk cows whose teats have become sore from accident or neglect, but we have rarely known them to resist, even when the blood has oozed at every pressure ; and in more than one instance, when from excess of pain it was impossible for a cow to stand perfectly still, we have observed an evident and affecting care and anxiety to avoid treading on or hurting us, which we can only account for on the supposition that the suffering creatures understood and appreciated our sympathy and efforts.

Considerations of humanity and self-interest alike urge us to an application of the golden rule in our relations with domestic animals. The time is past when the rod was regarded as an indispensable aid in the education and discipline of human beings, and the sooner the whip is banished from the barn the better, both for the farmer and his cattle ; and we shall conclude our o'er long essay with a few rules, which we have practised with much satisfaction and which we can therefore confidently recommend.

Never strike a cow when you are excited or cross ; because, on reflection, you may find that you, and not the cow, were in fault.

Never strike a cow for doing as well as she knows how, even though that may not be exactly what you wish. I have seen men change a cow's place in the barn, and then beat her savagely because she did not go to the new place, instead of the one she had been taught and accustomed to go to.

Never strike a cow with a view to teaching her anything ; because fear and excitement only render her more incapable of comprehending your wishes ; and because, in ninety-nine cases out of a hundred, a cow has not the remotest idea what she is struck for, and therefore the only effect of the blow is to provoke a desire to escape from further abuse ; and failing that, a desire to retaliate in self-defense

Considerable experience and careful study of the actions and dispositions of cattle have satisfied us that the safest plan is never to strike a cow at all ; but if you must strike,

Never strike with any other weapon than your naked hand ; because you will thus be enabled to form a pretty correct idea of the bodily pain you inflict, and be more likely, than you otherwise would be, to know when to leave off.

John C. Dillon, *Chairman.*

Mass. Agricultural College, Amherst, Dec. 1, 1871.

BUTTER AND CHEESE.

MILK.

The milk of cows is considered, by general consent, the most congenial food for man. Investigations in regard to its proximate constituents and their chemical composition, have taught us, probably more than anything else, what are the requisites of a really good diet. The relative nutritive value of the long list of substances which make up our choice of articles of food, has frequently been decided by a comparison of their chemical composition and their physical condition with that of milk. A liberal use of milk promises to benefit both the dealer and the consumer, and deserves hearty encouragement. It is of the utmost importance to obtain it in a pure, normal condition. The main components of milk are partly of an organic and partly of an inorganic character. They consist of butter, casein (or cheesestuff), sugar of milk, the phosphates of lime, magnesia and iron, the chlorides of potassium and sodium, besides some soda in combination with casein. All these compounds, with the exception of butter, are present in solution; the latter substance is merely suspended in the liquid in countless small globules, and causes the peculiar color and the opacity of the milk. Each fat globule is surrounded by a very thin coating of a nitrogenous substance, which disappears soon after exposure to air at a favorable temperature. A slight alkaline reaction of the fresh, normal milk causes the solubility of the casein, and the low specific gravity of the suspended fat globules favors their rising to the surface, where they form cream. The milk from a healthy cow always contains all the previously enumerated constituents, yet in a somewhat varying proportion. The quantity of milk which can be obtained from a cow, and also the quality which each individual cow of any particular breed furnishes, depends, as is well-known, on a number of circumstances, the most important of which are, the constitution, the condition, and the age of the animal, the amount and the kind of food, and the time and manner of milking. I do not propose to treat on these important

points here in detail, but intend to confine myself to a short discussion on those qualities of milk which affect its commercial value, and to describe a few of the methods for testing it. The constituents of a normal milk have been found to vary, usually, within the following figures :

Water,	86.0	88.5
Butter,	3.0	4.9
Casein,	3.0	4.9
Sugar,	3.4	5.2
Saline compounds,	0.6	0.8
	100	100

Its solid matter has been noticed to vary in extreme cases, even from 11.0 to 16.8 per cent., and its specific gravity from 1.026 to 1.034 at 60° F., taking water of that temperature equal to 1.0. As the presence of butter has a tendency to lower the specific gravity, and the presence of casein, sugar and saline matter reacts in the opposite direction, and as all these various constituents are liable to vary in percentage, it is plain that no reliable deduction can be drawn in regard to the total amount of solid matter in milk, from a mere test of its specific gravity. Skimmed milk of a high specific gravity—1.0338 to 1.0347—contains ordinarily but from 10 to 11.1 per cent. of solid matter, while a milk unusually rich in cream of a specific gravity equal to 1.026, has been shown to contain not less than 16.8 per cent. of solid matter. A common, good, unadulterated milk has a specific gravity from 1.029 to 1.033, and contains from 11 to 14 per cent. of solid matter. These facts in regard to the composition of milk render it certain that the common practice of deciding the question, "*what* is *genuine* milk, and *what* is *watered* milk?" is open to serious objection, unless supported by a supplementary test, since it is liable to awaken an unjust suspicion of fraudulent practices on the part of the dealer, while it does not efficiently protect the consumer against serious imposition. To protect the dealer against unjust accusations of dishonesty, the scale of specific gravity had to be lowered to a degree (1.026) which would leave it possible for him to add at least one-fourth of water to an ordinary good milk, without rendering himself open to the suspicion of fraud. There is little reason with us to fear the adulteration of milk with chalk, flour, starch, sheep's brains, and other auxiliaries and abominations, of which our books tell us, as long as water will answer all practical purposes ; since it is abundant, and

a periodical connection between the milk pail, and the pump —if not overdone—has been quite a safe operation, hitherto, as far as the chances of detection are concerned. This unpleasant circumstance was clearly demonstrated in a recent report of my friend, Professor C. F. Chandler, of New York city ; in which he states, that actual experiments induce him to believe that the inhabitants of the cities of New York and Brooklyn, get their annual supply of milk, which amounts to one hundred and twenty million quarts diluted with forty million quarts of water, for which adulteration at ten cents per quart, they pay four million dollars. I need not to say that Prof. Chandler did not base his conclusion on the results obtained merely by the application of any of the various areometers for ascertaining the specific gravity of milk.

Farmers, who convert the milk of their cows, upon their own grounds, into butter and cheese, have probably little need of good modes of testing milk, for the result of their dairy operations will tell them sometime, at least, what their milk is worth. Outside consumers are quite differently situated ; and a few remarks on some of the modes of testing milk for commercial purposes may interest them. The first instruments introduced for testing milk were several arbitrarily arranged areometers. Doerffel's milk balance, and Dinacourt's galactometer are frequently mentioned in this connection. Doerffel's instrument consists of an arometer with a scale of twenty degrees. Zero implies water at 60° F., whilst 20 degrees refers to a liquid of 1.0333 specific gravity, and is equal to 9.5 degrees of an ordinary saccharometer. The latter instrument may be used instead of Doerffel's, their relations being expressed by the following figures :

Doerffel.	Saccharometer.	Spec. grav.
11.0	5.1	———
12.0	5.6	———
13.0	6.1	———
14.0	6.6	1.026.
16.0	7.6	1.0310.
17.0	8.1	1.0332.
20.0	9.5	1.0333.

Dinacourt's galactometer is also an areometer, but divided into 100 degrees. 100 degrees is equal 1.029 specific gravity, which concentration is assumed to represent that of good milk ; zero indicates pure water. For testing skimmed milk a similar instrument is used

upon which 100 degrees refers to a specific gravity of 1.033, the specific gravity of skimmed milk under ordinary circumstances. From the fact that the specific gravity of good milk, after being *raised* by *skimming*, may be *restored* by the *addition of a certain amount of water*, it is obvious that the principle which underlies the application of hydrometers is here of little value. To supplement the preceeding mode of examination, optical tests have been proposed. Donne's and Vogel's lactoscope are designed for that purpose ; and are based upon the assumption that the more concentrated a milk is the thinner the stratum through which light will pass. A scale is connected with the instrument to determine the difference between good milk, and water, and mixtures of both. Unfortunately the fat gobules which mainly cause the purity of milk vary in percentage, even in a pure article, so much that very little information can be deduced from these indications beyond the question concerning the amount of butter present. Examinations with the microscope are very instructive, yet they require the hands of experts. Quite satisfactory results may be obtained by first ascertaining the specific gravity of milk, and the subsequent measuring of the amount of cream which separates from a given quantity of it at a certain temperature in a given time ; in other words, test the milk in its fresh condition, and again after the cream has been separated by means of any good areometer, and notice the amount of cream that has been formed. Proskauer's areometer is constructed with regard to these points ; a scale based on actual observation increases its usefulness Whenever time and circumstances permit, it is advisable to ascertain the specific gravity of the milk, and determine its solid matter by weight, after careful evaporation to dryness. Our exact modes for scientific purposes are unobjectionable, yet they require more time than will usually be allowed for mere commercial inquiries.

BUTTER.

Whilst duly recognizing the particular claims of mere practical experience in the successful manufacture of butter, I do not hesitate to express the belief, that a more careful attention to the chemistry involved in that operation will eventually give to the practical dairyman a better understanding of the many difficulties which not unfrequently surround him in his pursuit.

Milk begins to change directly after its removal from the

cow, and while we are able to retard these changes to some degree, yet we cannot entirely prevent them under ordinary circumstances.

Mere contact with the air and its microscopic germs inaugurates a peculiar process of fermentation ; the thin coating of nitrogenous substance, which covers each individual fat globule, soon enters into solution, and the globules rise to the surface ; the sugar of milk by degrees turns into lactic acid, which gradually changes the original alkaline reaction of the milk into an acid one, and the milk grows thicker in consequence of the beginning coagulation of the casein (cheese stuff). The longer the period of time between milking and souring, the more copious is the separation of cream. Cleanliness and proper temperature (54°—56° Fahr.) are the most efficient means to retard the souring process, and shallow vessels are used to shorten the passage of the globules to the surface. In case the milk changes too rapidly, many of the fat globules will be retained in the thickening milk, and the reduced cream moreover be strongly impregnated with coagulated casein. To keep the cream too long in contact with the souring milk has a similar effect, it introduces casein, which, if not thoroughly and seasonably removed, will surely impair the quality of the butter. To avoid this disadvantage the cream is collected from time to time, before a decided coagulation is noticeable ; some collecting it after six hours, others after twelve hours, which is the universal practice in Holland. To secure the best flavored butter the cream must be removed while the milk is still sweet.

The cream contains all the constituents of the milk, yet in different proportions,—its proportion of butter varies usually from 20 to 30 per cent. Butter made from fresh, sweet cream, excels in taste, but does not keep well ; it being difficult to remove from it all the milk-sugar and casein, and to give it the desirable compactness.

The practical rules for making butter must therefore vary with the objects in view, whether it be to obtain butter for immediate use or for keeping. To avoid some of the results which attend the working of fresh, sweet cream, the following course is frequently pursued :—The cream is placed in suitable vessels and kept at a moderate temperature (54° to 58° Fahr.) until it is rendered more compact, and at the same time acquires a slight acid reaction in consequence of which the milk-sugar is effectually destroyed ; the watery liquid which settles under the cream is carefully removed, and the cream churned at a temperature of 54° F. All these, and also the succeeding operations, tend simply to remove the fat glob-

ules as soon as practicable from the remaining constituents of the milk—the milk-sugar and casein in particular; and to accomplish this end by means which do not decompose the fatty compounds in the butter. Aside from the well recognized beneficial influence of good pasture and water; it is manifest that the fragrance and sweetness of butter depends to a large extent, if not entirely, on an unimpaired neutral state of the various fatty compounds of which the butter consists; whatever induces changes in these, is detrimental, and ought to be excluded. An unnecessary exposure to the air at a higher temperature than 58° to 60° F., particularly as long as the casine and the sugar of milk are not yet entirely removed, and the butter itself is still in a spongy condition reacts most seriously in that direction. As soon as the churning has been finished, we endeavor to remove the buttermilk and render the fresh butter compact and hard. To accomplish this, salt is added, either in the form of a fine granulated mass, or in a concentrated solution. An amount depending to some extent on the quantity of moisture in the butter. The salt acts in various directions; it contracts the the butter and thus causes a free discharge of the buttermilk; it dissolves the coagulated casein and thereby aids to remove it; it fills the fat mass with a saturated saline solution, which excludes the air and serves as an antiseptic towards the small quantity of casein, which a limited washing has left behind. The casein is what chemists call a nitrogennous compound; it is most remarkable on account of its disposition to break up into disagreeably smelling and tasting substances, and to impart its own instability to other more stable compounds, as for instance, butter. Pure butter is the most complicated natural fat, consisting of not less than eight fatty acids in combination with a substance known in its insolated state by the name of glycerine. Four of these acids in their insolated condition are solids; four of them are liquids. These latter acids are remarkable for their unpleasant odor and taste; while still in combination with that peculiar compound, glycerine, that strong odor is not noticeable, but as soon as that combination by any cause is disturbed, the objectionable odor and taste become noticeable and we recognize the fact by saying the butter is rank. The fatal reaction of casein on butter is merely a matter of time, which salt, even under favorable condition, can only delay. The following rules are endorsed by practical and successful butter manufacturers: protect your milk against every offensive odor; collect the cream before the milk is sour*; ferment the cream gently

before churning ; do not churn at a higher temperature than 50° to 56° F. ; carry the entire operation on with speed ; shorten thus the injurous effect of air under very disadvantagous circumstances ; wash the separated butter under little agitation, with a saturated solution of good dairy salt, and repeat the operation a few times, and finally, keep in mind that want of cleanliness will render all these precautions of but little use.

CHEESE.

In reading the late statistical reports of the American Dairymen's Association, we notice among others the following statements :—

American annual production of cheese two hundred and forty million pounds.

American annual demand for home consumption one hundred and eighty million pounds.

English and Scotch cheese production one hundred and seventy-nine million pounds.

Great Britain's annual consumption demands three hundred and nine million pounds, of which about fifty-five million pounds are from America, and the rest principally from Holland and Canada.

These figures tell us that we exceed England by millions of pounds in the production of cheese ; that we consume less than half as much per head, and that profitable exportation to that market, hitherto the only one, is limited by competition. In view of these facts, efforts have been made of late to stimulate home consumption in the interest of a branch of home industry of vast resources. The well-known practice of the people of England and other countries ; the highly nitrogenous character of cheese, and its cheapness as compared with other articles of a similar elementary composition, have all deservedly been urged with more or less modification as arguments in favor of a more liberal use of cheese. The main force of these arguments centres in the successful practice in England and elsewhere. To assume similar effects from substances of a similar elementary constitution, is somewhat hazardous and unscientific—as long as the terms a *nitrogenous* food and a *nutritious* food have not yet been proved to be identical; the cheapness of an article of food depends entirely on its comparative intrinsic value. With these few remarks in advance, I believe that the object of my subsequent discussion will be recognized. To argue a

question from more than one standpoint has aided usually in arriving at the truth.

A careful examination into the nature, the structure and the functions of the animal system, has revealed among others the following facts :—

First ; The organic portion of the animal system consists of two classes of compounds. One class is characterized by the constant admixture of the element *nitrogen*, and on that account the substances belonging to it are commonly called nitrogenous. They are the main constituents of the blood, and form the muscles and the flesh. The second class of compounds is characterized by the absence of the element nitrogen, and are usually called non-nitrogenous, or respiratory substances, and are particularly represented by fat in its various forms.

Second ; The same portions of elementary bodies, which constitute the various organs of the animal system at a given time, do not constitute them for all times. They fulfill certain functions only for a shorter or longer period of time, and cease, sooner or later, to be of any value for the maintainance of normal animal life. They are subsequently, in consequence of a peculiar process of disintegration, secreted in various forms and in various ways, and are continually replaced in the form of food.

Third : The process of respiration is the main source of animal heat, and resembles closely in its mode of action the well-known process of combustion. Among its final results most important are a vast amount of carbonic acid and water, which are also the results of the artificial combustion of starch, sugar, fat and similarly constituted articles, under the influence of a sufficient amount of oxygen, the active portion of air. Substances like starch, sugar, gums, cellulose, fats and oils of every description, in fact all such substances as consist of carbon and hydrogen, with or without oxygen, and which are known to chemists as carbo-hydrates and hydro-carbons, (with but a few exceptions) are capable of supporting the process of respiration.

Fourth. The process of nutrition, consists mainly in the building up of bone and muscle during the period of growth, and the replacement of the tissues which have been wasted in the support of the mechanical force exerted. A successful nutrition depends on the consumption of such nitrogenous substances as are known by the collective name of albuminous compounds. These albuminoids

are supposed to be formed originally in every case within the vegetable organism. Vegetable albumen, (the gluten of the seeds of our cultivated cereals), and the vegetable casein, (the legumen of the seeds of the Leguminosæ) are some of their most important representatives. Plants are therefore looked upon as the natural resource from which the animal kingdom, directly or indirectly, draws its requisite supply of nitrogenous matter for the formation of blood and its subsequent deposition of animal tissues, bones, muscles and fat. As a general rule, it must be conceded that they are of particular importance, as far as a successful nutrition is concerned, in their soluble modification, for in that condition they are more apt to be directly convertible without particular exertion of the apparatus of digestion.

Fifth: Certain mineral substances, the phosphates, chlorides, sulphates and carbonates of both alkalies and alkaline earths, besides the oxides of iron and traces of manganese, silica and fluorine are essential to the general promotion of animal life. They are supplied by the mineral constituents of our articles of food. Foremost among these mineral constituents are the phosphates of lime, soda, potassa and magnesia, the chlorides of sodium and potassium, the sulphates of soda and potassa, and the oxide of iron, besides smaller portions of carbonate of lime, fluoride of calcium, and silicic acid.

These observations are based upon numerous comparative analyses of the principle constituents of the animal system, and of the various kinds of food in use. The particular efficiency of our most important articles of food have been besides—*as is in this case of controlling importance*—repeatedly tested by practical experiments under varying, yet well defined circumstances, for the purpose of securing a reliable basis in regard to the decision of the important question: In what actual relation do the different constituents of our various articles of food stand to the several functions, and the normal workings of the animal system in general? For many years past, physiologists and chemists have advanced the following general conclusions, which in their essential points are recognized to-day.

First There exists an actual connection between the nitrogenous portion of our food and the formation of the animal tissues and the amount of muscular power which we are able to exert.

Second. There is a certain relation between the amount of non-

nitrogenous or so called respiratory compounds of the food consumed, our respiration and the deposition of the fat within our systems. The nitrogenous portion of our food has been called the blood or flesh-forming part, and the non-nitrogenous, the respiratory or fat-forming portion. A special adaptation of the several proximate compounds, of which our vegetable and animal aliments are formed, we fully admit: yet in attempting to construct tables for the representation of the comparative value of our various kinds of food, it has been assumed quite generally that all our common articles of food are to be rather valued by their flesh-producing than by their respiratory and fat-producing capacity. Hence their percentage of nitrogen has been recognized, with some limitation, as the standard by which their value as aliments ought to be decided. Judging from this standpoint, the analytical results, for instance of both the Cheddar and the skim-milk cheese—

	Cheddar cheese.	Skim-milk cheese.	
Water,	36.9	44.0	
Cheese matter, Casein,	2.90	4.50	(Flesh-forming).
Fatty matter,	30.4	6.0	(Respiratory).
Saline matter,	6.5	5.0	

we have to concede that cheese in general and skim-milk cheese in particular can claim a foremost place among our common articles of food on account of their very high per centage of nitrogenous or blood-forming constituents. However, scientific investigations of a later date, and closer observations of a successful practice in every day life have modified considerably the above assumed standard for the determination of the relative value of different nutritive substances. It has been proved that the comparative value of a food does not depend solely on its high per centage of nitrogenous constituents, but on a proper relative proportion of its nitrogenous and non-nitrogenous elements with the requisite amount and kind of saline constituents. Whatever, therefore, is wanting in one kind of food has to be supplied by some other, which completes the requirements of a normal diet. Cheese cannot be considered a complete food of man in the same sense as milk or bread. Its position is therefore a less important one. Wherever, under normal conditions, a diet is used which introduces itrogenous constituents beyond a certain proportion, it will be wasted. There are other points which claim attention when a healthy diet is to be decided upon. A suitable form is of the utmost importance. In speaking in par-

ticular of the nutritious value of cheese, it is but proper, also, to call attention to the fact that it is not impossible that the peculiar process of fermentation, which causes the transformation of coagulated casein—the curd—into cheese, may have impaired the value of the casein of the milk. Milk and cheese operate quite dissimilarly in our digestive organs; for a child, as a general rule, prospers on the casein of the milk, yet will be unable to assimilate it in the form of cheese; a more vigorous digestion, if I may use the expression, is needed to turn cheese to account. The casein in the milk, the curd and the cheese are quite different forms of a nitrogenous substance, and it would be singular if that difference should be found not to extend farther; a badly flavored cheese—the result of an excessive fermentation—is known to affect frequently and seriously the process of digestion. We are, unquestionably, well guided in our choice of cheese, for we prefer not only a sweet cheese, but also one which is rich in fatty matter. The good results noticed from a mixed food consisting of wheat bread and meat, as compared with wheat bread alone, has scarcely been questioned; cheese and bread are, no doubt, more wholesome and nutritious than cheese alone. Mankind has been guided instinctively, it appears, in selecting a congenial and healthy food for diverse climates and occupations. The market price of our main staple articles of food have been frequently pointed out as a *practical recognition* of their comparative intrinsic value as the sustainers of life and health. A good Cheddar cheese brings a higher price than a good skim-milk cheese. Wheat brings a higher price than oats. The fact that even the manufacture of articles of food turns, with the exception of cheese, almost entirely upon the concentration of respiratory substances, as sugar, starch, butter, wines, beer, etc., has been mentioned with some force as a proof that there is a greater want for non-nitrogenous than nitrogenous substances. A fact which manifests itself so universally, forces upon us the obligation to take notice of it. The following little list may convey some idea about the relative proportion of respiratory and flesh-producing constituents of some of our valuable articles of food.

	Flesh forming.	Respiratory.—
Bread of wheat flour,	1.0	6.50
Meat of a fat ox,	1.0	6.90
Meat of half-fat ox,	1.0	3.83
Fat pig, sheep, lamb,	1.0	10.00
Old sheep, half-fat,	1.0	6.28

Cheddar cheese,	1.0	1.
Skim-milk cheese,	1.0	0.13
Pure milk,	1.0	2.5—3.0

When looking for a standard of a most congenial and nutritious diet we quite naturally inclined to pronounce in favor of good milk. For we find in it, first, a large proportion and full representation of the most essential mineral constituents needed for our system, which cheese contains but in part ; and secondly, we recognize in it nitrogenous (casein) and non-nitrogenous (butter and sugar of milk) substances in such condition and proportions as produce daily under varied circumstances, the most satisfactory results.

Since we know that milk contains one part of nitrogenous substances to every two and one-half to three parts of respiratory constituents, we may obtain from the study of the composition of milk some useful hints in regard to the question, what is essential for a healthy diet, and what substances we ought to consume with cheese, when we aim at the desirable solution of the problem, under what circumstances we may be enabled to turn this, our most nitrogenous article of food to the best advantage. In the scale of highly nitrogenous substances used by man as food, next to cheese, stand our leguminous seeds as peas, which contain 23.4 per cent., beans, 23.3 per cent., lentils, 24.0 per cent.

It is impossible to give even an approximate idea concerning the relative value of both cheese and leguminous seeds. The latter have confirmed their great value by their successful introduction in the diet of the German army during the late war with France. To get some definite idea to what extent cheese may be advantageously applied, as a part even of a general diet, as beans and peas have been used, requires careful, well designed, comparative investigation ; and nobody can doubt that the interest of both producer and consumer would be promoted by it.

C. A. Gœssmann, *Chairman.*

Mass. Agricultural College, Amherst, Dec. 18, 1871.

FLOWERS.

The Committee on Flowers were perfectly harmonious in their action, and made the following awards :

For the best collection of flowers, regard being had to size, beauty and variety, first premium (five dollars) to Mrs. S. W. Boutwell, of Leverett ; second premium (three dollars) to Mrs. J. P. Gray, of Amherst ; third premium (two dollars) to Mrs. Alanson Hubbard, of Sunderland ; fourth premium (one dollar) to Mrs. Sarah W. Watson, of Amherst.

For the best collection of Asters, first premium (three dollars) to Mrs. J. P. Gray, of Amherst ; second premium (two dollars) to Mrs. S. W. Boutwell, of Leverett.

For the best collection, of Everlastings, three dollars to Mrs. S. W. Boutwell, of Leverett.

For the best collection of Dahlias, three dollars to A. B. Howard, of Belchertown.

For the best collection of Verbenas, first premium (three dollars) to A. B. Howard, of Belchertown ; second premium (two dollars) to Mrs. S. W. Boutwell, of Leverett ; third premium (one dollar) to Mrs. E. H. Judd, of South Hadley.

For the best collection of Wild Flowers, first premium (three dollars) to S. T. Maynard of the Agricultural College ; second premium (two dollars) to George Mackie, of the Agricultural College; third premium (one dollar) to Mrs. S. W. Boutwell, of Leverett.

For Ornamental Work in Seeds and Fruits, three dollars to Mrs. E. F. Cowles, of Amherst.

Although the competitors were few, the display of flowers was highly creditable, and added not a little to the attractions of the Hall. They were arranged with taste and skill, and manifestly much pains had been taken to exhibit them to the best advantage. The exhibition, doubtless, would have been larger and finer but for the early frosts.

Although plants under cultivation will naturally and properly constitute the greater part of the collection for our Fairs, yet it was pleasant to see such a display of wild flowers. Earlier in the season, a much finer exhibition of these could be made ; but at any time from May till November, there are more beautiful wild flowers than most people imagine, and some of them will not suffer in comparison with any under cultivation. Your committee were gratified to notice that forest and field had been searched to furnish a floral offering. S. T. Maynard, of the Agricultural College, exhibited 125 species of wild plants, the greater part of which were in bloom ; and George Mackie, of the same college, exhibited 75 species.

Your committee are of the opinion that, with little effort, a much greater variety, and more creditable collection of Dahlias might have been exhibited. Those on exhibition were very choice, but the number was small.

They recommend that a premium be offered for the best display of the Gladiolus. This is done, and with good reason, in other places as it is among the most beautiful flowers. There was a pretty boquet made up chiefly of this rich and showy blossom, by Mrs. H. A. Marsh of Amherst, to which your committee would gladly have awarded a premium, had it been in their power.

They also express the hope that a larger number in after years, will compete for the preminms in the floral department, and that they will be prepared to do so by the more extensive and careful culture of flowers. Among the lavish gifts of Providence, we have none more beautiful than these. They suggest thoughts of innocence, purity and loveliness. One of the most pleasing and significant descriptions of the character of the blessed Redeemer is found in these words: "I am the Rose of Sharon, and the Lily of the Valleys."

The wide distribution and almost endless diversity of flowers, are of the divine arrangement and kindness, and furnish a field for perpetual study and admiration. They accommodate themselves to every soil, situation and climate. They relieve the loneliness of the burning desert ; they crowd up to the region of eternal snow and ice ; they make glad "the wilderness and the solitary place ;" they adorn the valleys and the mountains, the pastures and the forests. They smile alike upon the rich and the poor, the well and the sick, the happy and the miserable.

They were made chiefly for our *gratification* ; for it cannot be

doubted that the Creator might have supplied us with fruits of all kinds without such exquisite floral creations. Some one has said :

> "God might have made the earth bring forth
> Enough of great and small,
> The oak tree and the cedar tree,
> Without a flower at all."

But how desolate would the world seem without these delicate and lovely things!

Your Committee, then, express the desire that a fuller appreciation of the kindness of our Heavenly Father in his floral gifts, may be manifested in an increased attention to the culture of flowers. The work will surely bring a rich reward. It will exert a constantly refining influence. It will make our homes more attractive, and relieve the tedium of many a weary hour. It will tend, also, to keep Him in grateful remembrance from whom all our blessings flow. With little pains, attended with great pleasure, a much larger number of persons might be able to make a commendable display of flowers at the annual fair. Each step necessary for this result will find its own recompense ; so that, whether successful or not as competitors for a premium, they will rest in the sweet conviction that their labor, instead of being lost, has been richly remunerative.

DAVID PECK, *Chairman*,

BREAD.

Your committee report 35 entries. There were of Wheat, 22 ; Rye, 6 ; Rye and Indian, 6. Bread made by a girl 14 years old or under, 6. There was also one entry of Graham Bread.

Bread of some kind, wheat, rye, or rye and Indian, is the main article of food for the majority of the people of New England.

Bread, properly made, contains more than almost any other kind of food, all the elementary parts in right proportion, for building up and supporting the human body.

Who does not love to look upon, as well as eat the delicate brown, light, and delicious loaf of wheat bread, the pride, as well as a most important test of every good housekeeper?

How many of our farmers prefer rye even to wheat. Many never feel that breakfast or dinner can be complete without the good old fashioned stand-by, so indispensable with pork and beans, rye and Indian.

To torpid, weak and inactive stomachs, not less valuable is Graham bread, containing as it does, all the elements of wheat in form best fitted for digestion.

Bread making as an art, ought to be ranked among the *fine* arts.

It is easy to give and to follow a recipe for bread-making, such as to put together certain parts of flour and milk and yeast and salt, and to bake one hour. But who that has eaten the sunken, clammy, sticky substance on the one hand, or on the other, the dry, hard, sour compound, too often called bread, has not felt in his stomach as well as in his soul, that there is something in a loaf of bread nearly akin to a poem or a picture.

Flour mixed with 35 to 45 per cent. of water, yeast being added, and a moderate heat being kept up, rises and increases in bulk, while a portion of the starch is changed into sugar and alcohol and carbonic acid, and actually undergoes decomposition.

By kneading, the dough is rendered fibrous and delicate. By baking, a portion of alcohol and water is removed, and the starch rendered soluble and fit for digestion.

Thus we see that bread-making is a scientific and skillful operation, to be classed with the manipulations and painstaking processes of the laboratory. Indeed, the good bread-maker is so far a good chemist.

There are science, and art, and fascination in bread-making, notwithstanding it is so often regarded as a merely mechanical, dull, and uninteresting process. We remember a young lady graduate of one of the first seminaries of New England, who, before she had the care of her own household, could see nothing to be desired in the pot of yeast so precious in the eyes of an older house-keeping sister. She found, a few years afterwards, beauty even in a pot of yeast, and that it could be made a source of true happiness and esthetic culture, no less than her painting and embroidery.

Taking into consideration then, that bread is so universal and necessary an article of food, and that good bread only is capable of building up properly and supporting the human body, and that bread-making rightly considered, is a scientific process, worthy to be ranked among the fine arts, also that it is possible to find occu-

pation in it for the highest culture and refinement, your committee award premiums to the successful competitors as fitting, though small testimonials of our regard for bread-making as an art, and for bread-makers as artists.

Respectfully submitted,

F. P. Chapin, *Chairman.*

JACKS AND MULES.

Your committee found but few entries in this class, viz: Two pairs of mules, one jack and one hinny, and only a part of these are owned within the limits of the Hampshire Agricultural Society.

It is a matter of regret that the farmers within these limits do not give more attention to the raising of mules for use upon their farms. Certainly they would do so did they rightly understand and appreciate their peculiar fitness for most kinds of farm work. It is estimated upon good authority, by persons who have given special attention to this subject, that the value of mules for work, profit, &c., is from twenty-five to thirty-three per cent. over that of horses, and a mule three years old is considered as good as a horse at five. The mule is much hardier than the horse, subject to fewer diseases, more patient, less particular as to its food, very much less expensive in feeding, more muscular in proportion to its weight, and usually living and working to about double the age. They are not so apt to get frightened, lose their senses and run away. A horse that has once run away is never safe afterwards; but bring a mule back in such a case and generally he will not do it again; his sluggish nature does not incline him to such tricks. They are always surefooted. For these among other reasons, the mule has always been used in mountainous regions, for difficult and almost impassable roads and paths; for hauling cars inside of mines, and various other kinds of work for which the horse is not suitable, or in which he soon breaks

down and becomes useless. The mule was used quite extensively during our late war for hauling baggage trains, &c., and proved of great value.

All are agreed that the mule is good for such kinds of work, but in many localities, especially among us, there is a prejudice against him, partly unfounded and partly on account of his supposed stubbornness and his kicking propensity. Well, as one writer says, he is a "born kicker," but if proper care be taken in breaking—if, instead of whacking them with clubs and cudgels and trying to whip the kick out of them, as is often done, kindness and patience are used, there will be no difficulty whatever in managing them, and no more danger from their heels than from a well-broken horse. By kind treatment mules may be rendered the most docile and affectionate creatures among our domestic animals. Wherever they have been faithfully tried for use upon the farm, the prejudice soon gives way. The owner of the two pairs of mules which were entered for premium at the late fair, said they would do more work and do it easier than horses; that he could keep them in good working condition on much less quantity and poorer quality of food; that for a time he worked one horse and one mule together because he was unable to procure another mule in this vicinity, and that in a very short time the mule would wear the horse out.

In very many localities, especially in southern countries, mules are used for all kinds of farm work, on omnibuses, street-cars, carriages, &c., and are excellent under the saddle. The practical question for us however is, what are the qualifications that fit them for general use by the farmers of Hampshire County. Some of these have already been mentioned. They are peculiarly adapted to plowing and cultivating between rows of corn, tobacco, broom-corn, and all hoed crops, as their step is quick and sure, they track all their feet in nearly the same line, are naturally intelligent, very soon learning not to step upon the young plants, and can easily be managed without the use of the line, but simply by the word of command. For these reasons they are also admirably fitted for use in the garden. They endure irregularity in feeding better than the horse, are less affected by changes in the weather, and recuperate more readily from fatigue and starvation.

From what we have seen of the working of these animals elsewhere as well as from facts we gather from various sources, we are convinced that it is for the interest of the farmers to use the mule more generally upon their farms, and that mule raising in this locality

with intelligent management, would be a profitable business. If people will interest themselves in this matter and take pains to find out the facts, the prejudice which now exists will soon die out and future committees on this class will not be obliged to record so small a number of entries. Respectfully submitted,

J. L. Skinner, *Chairman.*

MECHANIC ARTS.

The exhibition of this department was much more varied and complete than it has been for some years. It is worthy of especial mention, that the larger portion of the more important articles were brought from some distance, and at considerable expense. There was quite a variety of sewing and mowing machines present. It is probably impossible to invent any new principle for cutting grass and grain, or uniting pieces of cloth or leather by machinery. When certain patents relating to these machines expire, there is no doubt but many and even better styles of mowers and sewing machines will speedily appear in market. Their price will be much less than at present.

One exhibition of home talent was a double-barreled shot gun which contained two charges in each barrel, one charge to be fired at a time. We hope both charges won't go off at the same time in opposite directions; otherwise such species of home talent will speedily degenerate. No one failed to observe how much the hall was indebted for its attractiveness, to the cases of silver ware, as well as to the long array of sewing machines, around which there is always a perfect jam at fairs. The old farmers, too, were much interested in watching the workings of a new tobacco setter, out of doors.

This leads us to remark that there is no such thing known and used as a transplanter; that a good way to draw a crowd at a fair

is to advertise a trial of the fire annihilators; that the plans and details of more commodious buildings for the sheltering of farm animals and tools hung up on the wall where they can be seen and examined, would tend to ameliorate the sufferings of domestic animals in the country, and save large sums of money in the purchase of tools; that decent premiums should be offered for the exercise of home talent in producing new inventions and devices, such as preventing heavy doors and gates from sagging—tying animals in their stalls—keeping pumps and pipes from freezing in very cold weather—applying a weight in some part of the house, so that in gravitating it can run a sewing machine—protecting shade trees from gnawing horses—construction of fire escapes from houses—some device for stopping runaway animals, by which their own frantic efforts to escape shall gradually stop them.

Respectfully submitted,

CLARENCE E. BROWN, *Chairman.*

SECRETARY'S REPORT.

"The Twenty-Second Annual Show and Fair opened on Tuesday rather unpropitiously as far as the weather was concerned, but the dampness of the atmosphere did not at all dampen the ardor of the farmers and farmer's wives, who were out in full force with specimens of their handiwork. And not only the farmers were there, but the mechanics, the merchants and the manufacturers in greater numbers than we have seen for many years. The Society started out this year with the determination to have a good show or "give up the ghost," and they have done just what we predicted they would do; they have had the best show of cattle, horses, agricultural implements, &c., they ever had. This is in a great measure due to the Executive Committee, who have labored earnestly to arouse an interest in the fair, which of late years has seemed to be on the decline. The show of cattle was larger than has been

exhibited here for several years, and the quality of the stock far superior to that of any previous exhibition. Of town teams, there were four entries. Hadley had eighteen pairs, Pelham twelve, Belchertown eight, Amherst twenty-five, there were nine entries of working oxen, seven entries of trained oxen and steers, and thirty-four entries of milch cows, of which the Agricultural College sent fourteen. There were five entries of herds of cows, of which the Agricultural College entered sixteen, M. F. Dickinson six, H. D. Watson fourteen, and E. P. Hibbard nineteen. Twenty-six heifers were entered for premium, the most noticeable of which were those of Andrew T. Judd, Esq., of South Hadley. In the hall the display was the finest ever made by the Society, and was a complete surprise to almost every one, as nothing of the kind had been anticipated by the most sanguine of its members. Among so many articles of rare merit it is not easy to discern at a glance the most deserving of mention. In the fruit department we think the exhibition was far beyond that of last year, although there is a great scarcity this year in some fruits, and especially of apples."—*Amherst Record*, Sept. 27, 1871.

"Outside the hall, the show was on a new plan. Instead of the uncomfortable pens along the park fence, several rows of scantling frame-work were put up on the middle of the park, where the stock showed to much better advantage. The entries of cattle were more numerous than for years; the Agricultural College had eight thoroughbred bulls on the ground, though nothing from that institution competed for a premium. There were a Short Horn, Devon, Ayrshire, Jersey, Guernsey, Brittanny, Kerry and a Swiss, the last of which, an enormous fellow, did not reach the park till 2 o'clock in the afternoon, because he wouldn't get on the cars as he ought to have done in time for an earlier train. Till the last moment, a Hereford, Galloway and Dutch were expected. Of swine there were fourteen entries; the most notable of which were those of L. A. Chase of Florence, an associate editor of the *Agriculturist*. His black Berkshires and Essexes were good specimens. Of sheep there were fourteen entries, and of poultry thirty-seven. Mr. G. Morgan Smith of South Hadley entered the most of the latter, and the buff Cochins and huge Brahmas must have delighted any fowl fancier. Ducks, turkeys, Guinea hens, rabbits and cats had also their boxed representatives on the ground.

Mechanic Arts figured in forty-eight entries, and most of them were around the hall outside. Messrs. J. Adams & Sons of Hadley had on exhibition several specimens of their wagon manufacture, which is well known in this section for its excellence. Mowing machines of several varieties, horse-rakes, a tobacco ridger and a tobacco setter were placed all in a row next the hall, each guarded by a vociferous agent, and if the truth in their account stood in any fair proportion to their volubility, their machines ought to have an enormous sale.

Inside the hall, the display on the tables was remarkably fine, and the women of Amherst and contributors outside, made a good show of their handiwork. The only pity was that the bad weather kept away the crowd who ought to have seen it, and darkened the hall so much that the effect which a good light would have produced was lost. The vegetable side of the room was well filled with the traditional squash, pumpkin, potato, beet, and all the little *et ceteras*, curiosities and monstrosities which Dame Nature turns out in her whimsical moments. Specimens of the sugar beet, which the scientific men are trying to persuade our Massachusetts farmers to raise, were set up in a prominent position where aforesaid farmers could see them with their percentage of sugar pinned on. The varieties, and they really looked excellent, if looks go for anything in the character of a beet, were the French Imperial and German Electoral. *The* pumpkin weighed forty pounds, and in favorable circumstances is said to grow to 200, which is more of a stunner than the delectable fruit itself. However, these stories are all on the safe side, and the only wonder is that the possible dimensions of the prodigy are not doubled. Sweet potatoes which were raised in town were as large and fresh as any that are imported. Ambitious housekeepers had essayed fame with forty-one entries of honey, wines and jellies, thirty-four of bread, and nineteen of butter and cheese, all of which seemed to have been made with some other end in view than passing the contributor free to the grounds. Several factory cheeses from the Prescott factory lay composedly among the more modest home-made stock.

The fruit exhibit was good, especially the apples. No one would suspect from the heavily loaded plates and crowded tables that there was a scarcity of the most common fruit of the State."—*Springfield Republican*, Sept. 27, 1871.

The attention of the Secretary of the Agricultural Society, being necessarily confined to the entries to be made on the day of the fair,

the preceeding extracts from the *Amherst Record* and *Springfield Republican*, published at the time, give perhaps, a fair statement of the interest taken in the Society, and of the success of its annual exhibition. Great credit is due President Clark and others connected with the Agricultural College, not forgetting the students, for their efforts to make the occasion praiseworthy. At the last annual meeting by vote of the Society, the executive committee were reduced in number from thirteen to five. Let me bear testimony in their favor, for all proved efficient men, not only in proposing plans, but in the execution of them. The merchants of Amherst, and in fact everybody who held out helping hands, are not forgotten. Last to commend, but not least by any means, comes the Mechanics' band, of Orange, who furnished excellent music both days of the fair. The experiment of a concert in College Hall was financially a failure on account of the storm. Persons who did attend, pronounced the concert polka "Oxford and Cambridge" as rendered by the leader, Mr. Clapp, worth the price of admission..

The published annals of the Hampshire Agricultural Society, as well as the written records of the Secretary, indicate a decline of interest on the part of the people in the success of our annual fair. There was a time when agricultural fairs were sustained by their novelty. The day was ushered in by the ringing of bells, the tramp of horsemen, the heavy tread of long columns of cattle followed by herds and flocks of every variety, attracting a large crowd of people who gazed with eager interest upon the scene. To-day, like the zealous minister, we need to pray "Oh Lord, rim-rack and centre-shake this whole town with a thundering revival." Formerly the tables were loaded with the choicest fruits of the season, and the finest products of the dairy, the hall was adorned with pictures and tasteful needlework which oftentimes had occupied the busy fingers of the good wife or daughter for months prior to the fair. All classes of the community entered heartily into the competition. The man of business found time to nurse his mammoth melon for weeks beforehand, but sometimes found himself outdone by some stripling of tender years who had secured a better soil for the growth of his pet, and thus the laurels were borne away by happy and excited victors from every grade of life. Once it was the gala day of all classes. From east and west, north and south, there poured into Amherst a flood of people to enjoy this yearly celebration. Many citizens who could not understand the Latin oration at commence-

ment, could easily translate the language of fruits, of flowers, and of beauty, here presented. In fact, it was an occasion like a college semi-centennial or an ancient fourth of July. But these innocent rivalries have long since passed away, and the fair no longer merely a day of festivity, has become a grand educator of the people, and as such we claim for it the patronage of every intelligent citizen in the community.

England, France, and America have each had their crystal palace exhibition, and the genius of the world was quickened by the competition there afforded. The county agricultural fair furnishes an industrical exhibition of equal dignity, if not of equal magnitude. A stock raiser from Oregon the present season has visited many of the agricultural fairs of New England, as well as the Western States, purchasing choice breeds of horses, cattle, sheep and swine, and sending them beyond the Rocky Mountains. The thinking men who till the soil with brains as well as hands, now pass from one fair ground to another, and are thus making the county fair the grand lever which is raising our agricultural population in intelligence, wealth and prosperity. Add greater power to the lever, and it will, "with a place to stand on," (which it has already secured), move the world. Let the best implements of agriculture, as well as the choicest grades of stock be brought to the fair grounds, even though it cost care and labor for which there is little reward, that the poor man may for one day study models, which he has no time or money to spend in studying abroad. Let the whole family come to view the products of the soil, the choicest and purest breeds of stock, the improvement in agricultural implements and the specimens of mechanic arts brought together, and the result will be sooner or later the planting of a tree or flower to adorn the surroundings of the dwelling; the hanging of a picture to brighten the walls of a cheerless home; upon many tables the bread shall be whiter and the butter more golden; the old scythe and plow will be displaced by improved implements, and, in short, the once unattractive homestead will become the object of pride and affection, not only to the parents, but to the sons and daughters.

It is true there are men who love the old rut best, but such men are never seen at agricultural fairs. I have now in my mind, a citizen of Hampshire county, who lived upon the farm which had descended to him from his grandfather, for sixty years, yet not an acre of it, save the wood-land, was as valuable as when he

took it, nor had the savings of sixty years amounted to $500. How he managed to work so long and save so little, may be best shown by this incident. Not two years since he ordered a tin lantern of the very same pattern as the one used by his grandfather, which had lasted until that time, and through a thousand punctures emitted one third of the dim light of a tallow candle. The peddler vainly expostulated, and even the manufacturer, doubtful of the man's sanity, at first refused to fill the order. The good citizen, however, received and paid for his lantern, firmly believing it to be still unrivaled by any later invention. That there will be men of this stamp who will never look in upon an agricultural fair, we doubt not. They are joined to their idols, let them alone.

Seven years since, a resident of Barre, who had spent among those hills his three score years and ten, moved from thence to another State to spend his remaining days with a daughter. Five years afterward he re-visited his old home. A great change had taken place in the interval, for the old man was now blind. From the formation of the Worcester North-west Society until his removal, he had been among the first to contribute to the show of stock and the exhibition in the hall. They led him to the fair ground, and as one after another of his old friends came and spoke a kind word and offered the familiar hand, and to him the unseen smile, he at length exclaimed, "I would give $500 for my eyesight, to-day, only one day, that I might see you all; that I might look in your faces; look over these fair grounds, and once more behold my native hills." But when the eyes fade new sight never comes again; when the arms or hands are cut off new ones never grow again. So men who visit the agricultural fair, not for new thoughts and new methods, not for profit, by failing to examine carefully into the results of the hard labor of the progressing, toiling and thinking men, lose that which will never come again.

In olden times, ministers of the Gospel not many miles from Amherst, ascended before the conclusion of the discourse, even as high as twelfthly, but as Amherst College has diffused light through different portions of the county, new customs prevail, and the ministers of the Gospel, during the hour, seldom get higher than thirdly. The dry, dull, dead formulas of the pulpit have disappeared before the bright and living eloquence of the present Gospel ministry. So the Agricultural College is destined by its diffusion of light, to do for agriculture what the old college has for religious teaching. It is but a few years since chemistry was applied to farming, while

ages of toil and labor have been bestowed upon literature. Brain work has been expended for years upon mechanics, while farming has gone on in the same old rut.

The old theory that anybody can be a farmer, and that all the educated must be ministers, lawyers, doctors, or politicians is false for practical skill can only be acquired by practice, and real knowledge only by hard study. A farmer needs both that he may be successful. It is said that woman's wits go into her clothes—too true, as seen in the frills, ruffles, laces and ribbons with which she is adorned. So let farmers' wits go into their farms, as seen in the best of everything brought to our agricultural fairs, to deck the tables and walls, and fill the grounds of the society and thus excite the ambition of the thoughtless and more heedless classes among us.

In conclusion, let me suggest a few ways of making the Hampshire Agricultural Society what it should be, prosperous, alive and free from debt. First, we ought all to offer the prayer of the zealous minister. Second, every member male and female should induce one person, at least, to join the society. This would double the membership and pay off the debt, and leave a thousand dollars in the treasury to fall back upon some rainy day. Third, at the fair of 1872, let every member contribute something for the exhibition. If awarded a premium be satisfied with the honor of being the lucky competitor, and leave the money in the treasury which will add another thousand dollars to the permanent fund. Thus proceed until the society can throw open its doors wide and free, thereby increasing knowledge among the people and the fairs shall add wealth and happiness to every household.

E. A. Thomas, *Secretary.*

FIRST PRIZE ESSAY.

BY S. C. THOMPSON.

Should an intelligent, industrious and enterprising young farmer, with moderate capital, be content to carry on his business in Old Hampshire, or emigrate to some other locality?

For a young man just starting in life, the most important thing, perhaps, is the choice of a profession to enable him to know upon what he is to depend for his subsistence, and this having been done, the next thing of moment is, in what section of country he shall pursue this occupation. Take the first part of this proposition as settled, that he is to be a farmer, let us look at the second, viz: Where should he select his farm, and what should be his surroundings? In the selection of a farm, one of the essential requisites, is of course to have something to begin with, that is, to have land which is naturally fertile, and not have to begin at the lowest round of the ladder, and contend with a barren soil and an inclement climate. The soil which would generally be preferred, is a deep, friable, and at the same time, retentive loam, naturally underdrained.

The slope of the land, may, or may not, be of so much account to him, though preferably a south-eastern, southern or south-western exposure would be selected. The farm should be suitably divided into tillage, pasture and woodland, and be so situated as to be easy of access in all parts, and not too far away from the buildings. The buildings are of vital importance to the farmer, and should be commodious, warm, well ventilated, and conveniently arranged. They should be situated as nearly as possible in the center of the portion from which crops are taken. The location of the buildings is, however, something which can be more easily changed, than many other things about the farm. Even if a good location, with regard to soil, &c., is determined upon, there are other and not less important considerations, foremost among which, are those relating to transportation.

Good facilities for transportation are among the necessities in farming; let a farm be ever so good, the owner ever so practical and well informed, but having no easy method of conveying his crops to a market, he can never hope to compete successfully with another, who, though not having quite as good a farm, has what more than compensates for this, namely easy transportation. These should be something besides good highways, though these are most valuable adjuncts. Good railroads are of greater importance than good highways, in most sections, as there can be but few places where a person is able to carry his farm produce directly into market himself. Having good markets near by will save much of the risk incident upon sending crops by car to a distance. A city market is of course superior to any smaller one, as the quantity which would cause a glut in the latter, would not make any appreciable difference in the former, and the prices fluctuate less in a large market. During a few years past there has been much said and written upon Western farming, the immense profits, light work &c., but we will presently look at some facts in regard to this.

Yet there are, or should be some other objects to be kept in view as well as dollars and cents. True it is that most of us are toiling and striving after "filthy lucre" though we try to delude ourselves with the belief that the goal for which we are laboring, is something more noble, yet in farming perhaps more than in any other pursuit, there are other aims more important than pecuniary matters.

Of course such a thing as a bachelor farmer is not to be tolerated for a moment, although a bachelor may succeed in nearly everything else; yet, in this particular branch, the need of a better half will make itself painfully apparent. To a farmer having a family to rear, there are many things which must claim as much of his attention as the laying up of money. If he is intelligent, he wishes of course to have his children as well or better educated than himself, and in order to do this, it is necessary to locate where he can reap the benefits of good schools.

You may say, if a man has money, he can educate his children away from home, if there are no suitable schools in his vicinity, but I think most will allow, that for young children, an education obtained away from home, will not compare favorably with the training received under the watchful and interested care of parents. Should a person go to the West to follow farming, he cannot expect such educational advantages as he would enjoy in

New England, and especially in this State. In the South the case is still more strongly marked, for while good schools here are the rule, there they are the exception.

A lack of churches is another thing very keenly felt by a person going from the East to another section, and unless one is fortunate enough to obtain a farm near some city or town, he must deny himself the privilege, or contribute liberally to build up and maintain such a society as suits him. Still another disadvantage which is met by persons not living in a well populated region, is the want of society; it will be the more unpleasant from the fact that a farmer's habits and mode of life, tend to make him enjoy the company of others, and be of a free and hospitable disposition.

With regard to the animals on the farm, he should be so situated as to continually improve them by judicious breeding. It is hardly probable that a young man will have capital enough to permit him to buy thorough-bred stock, so he must locate where he can avail himself, as far as possible, of blooded stock. Now having enumerated some of the requirements of the farmer, let us see where the most of these can be satisfied. Let us begin in the same order as before, first with the soil. It is a recognized fact that there are few if any sections, where a person can get a soil adapted to such a variety of crops, as that of the Connecticut river valley, and especially that part in Hampshire county. We hear of the large crops of the West, in grain, hay, tobacco, &c., but here we get a larger crop per acre, as we shall presently see.

Taking the figures as given by a recent writer on the subject, and comparing the common crops of both regions. we reach the following results. Beginning with corn; in the year 1867 the corn crop of Massachusetts compared with that of Ohio and Texas, was 35 bushels for Massachusetts, and 28 bushels for Ohio and Texas.

The value of an acre in Massachusetts was from $50 to $54, in Ohio from $20 to $23, and Texas from $17 to $22. For wheat, the average yield in Massachusetts was 16 bushels, Ohio 15 bushels, Texas 9 bushels; while the wheat of Massachusetts was worth $2.75 per bushel, or $44 per acre, that of Ohio was about $2.40 per bushel, or from $27 to $30 per acre, and Texas $1.90 or from $17 to $18 per acre.

These figures are for the grain alone, but while the corn stover is comparatively worthless in the West and South, here it is worth from $10 to $15 per acre, and for straw the difference is fully as

great. If you raise oats, the average crop of Mass. is 28 bushels which is worth one year with another .75 per bushel; in Ohio, the crop is 30 bushels, and Texas 28 bushels, worth .40 per bushel, with the same difference in the value of straw as before given. The tobacco crop in Mass. is 1100 lbs. per acre, and the superiority of the Conn. river valley tobacco, over that of most other States, is too well known to need comment, while the crop in this State is more than treble in value that of Virginia. Of hay, we raise one ton in Mass. to one and one half tons in Ohio and one and two thirds in Texas, but the crop in Mass. has been for years, when harvested worth $25 per ton, Ohio $12 to $15 and Texas $16 to $18 per ton. Although the soil of Mass. is often mentioned as being exhausted by over cropping through a long series of years, yet in no State is the crop so varied, the quantity produced so large, or the harvest so valuable as in this State. California and Minnesota exceed us in the quantity of wheat raised acre by acre, but do not equal us in other products. Allowing these figures to be true, one may still contend that the cost is so much greater here than elsewhere, that the balance remains in favor of the South and West. Taking an average of the whole amount under cultivation and of prices by the actual results, it appears that in Mass. the value of produce per acre is $28, Ohio $18, and Texas and California $21 each. The aggregate amount is of course dependent on the area of land cultivated, but taken acre for acre the result has been shown.

Even if we allow the financial advantages claimed by the friends of Western or Southern farming, still the balance remains in favor of Massachusetts, particularly when we take into the account, the domestic comforts of the different sections. There, a small, rudely built house, containing from one to three rooms, without cellar and out-buildings, suffices for the comfort and enjoyment of the family, the cattle while sheltered from the driving storms and piercing cold, by a neighboring haystack or rail fence.

On a Sabbath morning behold the sturdy members of a Western family, gravely seating themselves in the farm cart or wagon, (totally devoid of springs or other conveniences,) behind a yoke of patient oxen, and then quietly wending their way five, ten, or even fifteen miles, to the nearest church, while the internal and external government of farm and household is on the same scale of magnificence, and our argument still is, that with the same amount of domestic

discomfort at the East as at the West, the advantages of farming at the East are even more than our figures would indicate.

If farther comparison is needed, just the reverse of the picture already shown, our well ordered, commodious houses, comfortable stables, fleet horses, light and easy carriages, and the general indications of thrift and comfort pervading a farmer's house in Hampshire county, and the case will speak for itself. Next, compare the transportation of the two sections, the result will certainly be in favor of the older State, there being two railroads within easy access, and a prospect for a third, in the county of Hampshire alone. Educationally it will be difficult to find a place possessing greater advantages, for in this county, in one single town, a person can begin and complete his education. If he wishes a practical, scientific education, fit for every day use, or desires to follow some particular science, the Agricultural College will furnish the opportunity for that. Should he choose to become a farmer, and require a theoretical and practical exposition of the principles involved, the requisite means are at hand. If a profession is the object for which he is studying, he can enjoy great facilities at Amherst College, where he can have the benefit of a great library and extensive cabinets, together with a large corps of efficient officers.

Taking these privileges and that of having good agricultural societies near at hand, we can but question the wisdom of an "intelligent, industrious and enterprising farmer" who concludes to emigrate from Hampshire county.

Mass. Agricultural College, Sept. 1, 1871.

PRIZE ESSAY.

BY R. W. LIVERMORE.

Desirable Improvements in the Agriculture of Hampshire County.

An Athenian, being asked concerning the necessary requisites to successful oratory, replied: In the first place, action; in the second place, action; in the third place, action;" and if one was now asked the same question applied to agriculture, he might as strongly reply, "Fertility."

The farmer who is determined to make a manifest success of his life and calling, to have agriculture the better for his having engaged in it, asks first of all: "If my land is not at its maximum fertility, how shall I put and *keep* it there." He places this question and its solution above ease, above mere utility, above display or accumulated property. That our soil has not been thus consulted, our mpoverished fields and diminished returns plainly declare. With each generation the smart young man, or men, of the family, having well skimmed the old homestead, move westward or city-ward, leaving the worn-out land to be tilled by worn-out men, or by the nerveless, inefficient, "never-get-out-of-the-rut" portion of every community. Exceptions to this, happily, are growing less and less rare, and we trust as agriculture feels the march of intellect, as culture and science elevate and ennoble her walks, our native young men will stay by the old farms, and we shall see them cultivated, not for the results of five years or twenty, but for a life time, to be handed down to children and to children's children. This cultivation from father to son has largely contributed toward placing England's agriculture in the van, and its interests in our country demand its repetition in our older States. No more fitting State could be found to inaugurate this system than Massachusetts—always first in every good work:—No more fitting county of that

State than old Hampshire, possessed of men, front and foremost of farmers, and of an institution, front and foremost of agricultural colleges.

Therefore I would urge as the first essential improvement, (not in this county alone, but throughout the State,) the adoption of a more far-sighted policy in the cultivation of our farms. The capital and labor demanded for the permanent improvements upon our rough New England fields will not pay in one year or three, and we are nearly all too selfish to cheerfully sow that others may reap. So our farmer with the Yankee's love of change or trade,—always ready to "sell out," does not set out an orchard for some one else to pick the fruit.

That meadow paradise of frogs, reeds, flags, and three-cornered grasses remains unimproved; for who shall reap the result. For the same reason year by year he hoes and mows around those unsightly, profanity-tempting rocks. Finally, ten chances to one, old age and death finds him on the same skeleton of a farm, graceless and rugged as of yore, and his sons long since disgusted with farming, as they saw and understood it, having turned to other pursuits, the blow of the auctioneer's hammer consigns the old homestead to strange hands, perchance to some thrifty son of Erin.

This is not a fancy sketch, you will find its prototype multiplied in every country town of Massachusetts. During the last decade our farming population has decreased in numbers, and our acres of waste land devoted to scrub oaks and alders increased. By comparing the official returns for 1865, with those for 1850 we find the unimproved lands of Hampshire county increased by 28,121 acres.

We find $10,000 gain in fruits, and 10,000 bushels increase in corn. We find a decrease of over 80,000 bushels of oats and rye, a less quantity of hay, and a large falling off in butter and cheese. Swine are reduced one half, and with the exception of horses, farm stock is reduced in value. In total value, including improvements and buildings, we have gained $3,479,344, which we must largely lay to the credit of tobacco, which at our first date yielded about $11,000, at our later date $751,654. Here we see a falling off in those productions tending to sustain the natural fertility of the soil. Supposing that for the next twenty years the farmers of this county would throw aside all migratory intentions, manage their farms not to acquire the largest amount of cash in hand for each current year, but for permanent improvements and maximum

fertility in every field, possess themselves of sufficient faith in their profession to put their capital into it, accept the aid mechanics and science offer,—bring every mental power to work in unison with their physical, and at the end of a score of years, they would at the same time, have shown our defects and applied the remedy. They would not only be richer in mind, honors and pocket, but their county would be the Eden of Massachusetts. Where individual examples have failed, their united influence could not but stir up the "dry bones" of our old fossils, who on such farms as we first described, look with sovereign contempt at any innovation upon broad back and hard muscle, and furiously hurl rude wit, sarcasm and tobacco spit at "book larnin'," and "book farmin'." To what state can we more properly look for a true system of agriculture than Massachusetts?

Can her farmers at present show results commensurate with those attained in other pursuits? Have those in this county expended on their farms one tithe of the mental activity which has dammed and bridged our streams, founded our institutions of learning, or built and carried on our numerous manufactories. Can it be that we do not need it in a business which in its varied manipulations combines the application of almost every science and art? If by enterprise and industry with skilled, scientific thought and observation to guide we can increase our crops,—develop and strengthen every latent energy of the soil, making our farms attractive to refined taste, and thus productive of a higher mental standard in our families and profession, it is not only pecuniarily but morally wrong not to do so. For we are not serfs to any prince or emperor, but as a Commonwealth of free citizens, whatever increases the resources and fertility of our lands, adds to our united prosperity. This subject cannot be too strongly urged. Although presented in agricultural papers and lectures until it appears as one-sided as a mirror, still our New England farms clearly prove the need and continued need of these exhortations. Let us labor to bring our farms back to their natural fertility, and to accomplish this, carry nothing from our fields to the granary or the market without returning its equivalent in fertilizing matter.

In connection with this subject, the question of large, *versus* small farms, might form an important item, did time permit. We read that Cincinnatus was as diligent and as successful at the plough as in the senate and army, but he refused a prof-

fered gift of valuable land from the senators; for said he "I have already more than I can properly cultivate." His farm consisted of two and a half acres. Although our farmer may not so closely limit his boundaries for fear of violating the tenth commandment, would it not be better in the generality of cases (especially for those beginning), to work smaller space, throwing extra capital and yearly gains into its cultivation, until its fertility and returns are of the best. Then if the spirit moves, and your neighbors are willing, enlarge. I think the general management and results of large farms will prove this. Of course, there are exceptions, for as in finance, in manufactures, in mercantile life, some men with the will, talents and training, will progress in extent and control of business, far ahead of their fellows, so it is in agricultre.

Special culture is another improvement. In this age of mental activity and progress, of rush and struggle for superiority, success crowns only him who concentrates every energy to the accomplishment of some one fixed purpose. The old "Jack-at-all-trades" is left far in the rear. Choose some one branch of agriculture, suited to your taste and position, then "fight it out on that line" if it takes, —more than Grant's summer—a lifetime. Is it stock raising, is it dairy farming, fruit culture, or market gardening? take which you please at the end of a life's most careful study and observation, any little boy inquisitive for information, may ask you questions vital in their connection with your business, which you cannot answer. The more men Hampshire county can show engaged in such special culture, the higher will be her agricultural influence and standing.

The breeding of pure blood stock, judging from your annual shows, offers ample field for improvement to special farmers in this county particularly tempting, by reason of easy access to thoroughbred animals at the State farm, whose superior qualities ought to be stamped upon all our herds. A name among farmers cannot be acquired in any shorter way than as a reliable breeder of pure stock, and as to money, knowing ones in this field have long reaped rich rewards, and the harvest is yet comparatively untouched,

The greatest improvement however, may be made in the mental culture and professional training of the farmers themselves. In the doing away with old-time prejudices, in accepting the proffered aid of mechanics and science, with minds properly prepared to put it nto practical use. If we wander upon the hills, back from the river owns, we find marks and tracks speaking as plainly of bygone ages,

as those treasured in the Hitchcock cabinet, but of a very different sort. We cannot put new wine into old bottles, neither can we expect the old men grown gray in the ways of their fathers to change their system. We must look to the young men. It is for them to infuse life into their profession, and impart to it the inspiration of the nineteenth century. Let the farmers of this county see to it that their sons are afforded every facility to enjoy the advantages of the liberal scientific training afforded by their own College,—that annually she may send from her halls back to the old homestead, graduates who can stand on a perfect equality with other educated men, and by their intelligence, industry and success command for agriculture the appreciation it deserves.

Massachusetts Agricultural College, Sept. 1st, 1871.

REPORTS AND ESSAYS.

To render permanent and useful the information and suggestions to be derived from the agricultural exhibitions so liberally encouraged by the bounty of the State, it has been properly required of all the societies that they offer premiums for the best reports of committees. To encourage habits of investigation, reflection and composition, especially among the younger members of the societies, it has also become customary to offer premiums for the best essays on specified subjects.

The Committee on Reports and Essays for the year 1871 are exceedingly gratified with the number and excellence of the papers presented for their examination, and find it very difficult to decide in a satisfactory manner how the awards should be made. Nevertheless, for reasons which they hope will be obvious to those who read them, the first premium has been awarded to Prof. C. A. Gœssmann for his very scientific and instructive report on Butter and Cheese.

Farm Superintendent J. C. Dillon claims the second premium for his interesting and well-written report on Milch Cows, which is replete with information and wise advice in regard to the selection and treatment of dairy stock. Those who will visit him at the College will learn that he practices what he preaches, and that the animals under his care appreciate the kind attentions they receive.

Capt. J. L. Skinner's report on Jacks and Mules is deemed worthy the third premium. His statements in regard to mules for farm work are not exaggerated, and there can be no doubt of the great advantages to be derived from their use in place of the more expensive, shorter lived and comparatively tender horses now so commonly employed.

The three clergymen, who have severally made valuable reports upon Flowers, Fancy Articles and Bread, deserve each a premium, but as the committee have only one at their disposal they award the

fourth to Rev. David Peck, whose love of the beautiful in nature has led him to discover and describe for the benefit of others much charming and picturesque scenery and many rare flowers on the rugged slopes of Mt. Mettawompe.

The essay of Mr. S. C. Thompson, a student of the Agricultural College, was evidently prepared with care and written out very legibly and correctly, a matter of much consequence and likely to be appreciated by any committee of examination. The first premium is awarded him and his essay printed in the transactions of the Society.

The second and third premiums are awarded to Mr. R. W. Livermore, also a student, who shows decided talent for composition, and one of whose essays is printed. The fifth premium is given to Mr. John W. Clark, a student, for his essay on the Farms and Farming of Hadley.

Respectfully submitted,

W. S. Clark, *Chairman.*

CHARTER.

An Act to incorporate the East Hampshire Agricultural Society.

Be it enacted by the Senate and House of Representatives in General Court assembled and by the authority of the same, as follows: Alfred Baker, Edward Dickinson, their associates and successors, are hereby made a corporation by the name of the East Hampshire Agricultural Society, for the encouragement of Agriculture and the Mechanic Arts by premiums and other means in the town of Amherst in the county of Hampshire, with all the powers and privileges and subject to all the duties, liabilities and restrictions set forth in the forty-second and forty-fourth chapters of the Revised Statutes and in all subsequent acts concerning Agricultural Societies. And said corporation may hold and manage real estate not exceeding in value the sum of fifteen thousand dollars, and personal estate not exceeding the same sum, for the purposes aforesaid.

Approved, May 1, 1850.

An act concerning the East Hampshire Agricultural Society.

Be it enacted &c., as follows:

Sect. 1.—The East Hampshire Agricultural Society in the county of Hampshire, shall, after the passage of this act, be called and known by the name of the Hampshire Agricultural Society.

Approved, May 15, 1851.

BY-LAWS

OF THE

HAMPSHIRE AGRICULTURAL SOCIETY.

Article 1. The officers of this Society shall be one President, a Vice-President, a Secretary and Treasurer, and an Executive Committee of five, to be chosen by ballot, at the annual meeting, and to serve one year, and until others are chosen in their stead.

Art. 2. The President shall preside at all meetings of the Society, and in his absence the Vice-President.

Art. 3. The Secretary shall keep a true record of all the doings of the Executive Committee and the Society.

Art. 4. The Treasurer shall keep an account of all moneys received into and paid out of the treasury. His accounts shall always be open to inspection by any member of the Society, and he shall give bonds, in such sum as shall be designated by the Executive Committee, for the faithful discharge of his duties, and he shall make an annual report, previously audited.

Art. 5. It shall be the duty of the Executive Committee to call special meetings of the Society, and upon the request of not less than ten members from each of four different towns they shall call such meetings ; to designate the time und place of annual exhibitions, and make all necessary arrangements therefor ; to appoint sub-committees for examination and to award premiums ; and to have a general supervision over the funds and affairs of the Society. The President, Vice-President and Secretary shall be members of the Executive Committee.

Art. 6. The annual meeting of the Society shall be held on the last Wednesday of December each year, and twenty members shall constitute a quorum to do business.

Art. 7. Notices for all meetings of the Society shall be signed

by the President and Secretary, and published in some newspaper in the county, or circulated by handbills, or in any other manner that may be designated by the Executive Committee.

Art. 8. Any male person may become a life member by paying to the Treasurer the sum of five dollars, and any female by the payment of two dollars and fifty cents.

Art. 9. All premiums not called for within six weeks after the same are awarded shall be paid into the treasury and be considered as presented to the Society.

Art. 10. These By-Laws may be amended or altered by a majority of the members present at any legal meeting.

SPECIAL RULE.

Adopted at the 23d Annual Meeting of the Society, held at Palmer's Hall, December 27th, 1871.

Voted: That all members of the Society pay for admission to the grounds the present year, and that all persons be requested to present fifty per cent of the premiums awarded them to the Society.

Voted: That L. P. Warner, of Sunderland, be appointed special agent to procure new members.

TREASURER'S REPORT.

E. A. THOMAS, Treasurer, in account with Hampshire Agricultural Society.

1871.	Dr.
To Cash received of R. W. Stratton,	109 07
" " " of Life Members,	100 00
" " " for admission and entrance fees,	707 97
" " " from State Treasurer,	600 00
" " borrowed of Amherst Bank,	250 00
	1,767 04

1871.	Cr.
By Cash paid for printing,	109 48
" " " interest on note,	29 48
" " " Mechanics Band,	150 00
" " " Hon. P. A. Chadbourne,	50 00
" " " Secretary and Treasurer,	75 00
" " " for premiums,	1,104 74
" " " incidental expenses, as per book,	248 34
	1,767 04

I have examined the account of E. A. Thomas, Esq., Treasurer of Hampshire Agricultural Society, and find it correct.

O. G. COUCH, *Auditor.*

DISTRIBUTION OF PREMIUMS.

Names of Towns receiving premiums and gratuities, and amount paid to each.

Amherst,	$216 93
Belchertown,	73 00
Conway,	5 00
Chicopee,	10 00
Enfield,	20 50
Granby,	5 00
Hadley,	126 50
Hatfield,	16 00
Leverett,	38 75
Montague,	7 00
Northampton,	81 50
Pelham,	26 00
Prescott,	5 00
Sunderland,	75 50
South Hadley,	100 00
Southampton,	6 50
Shutesbury,	1 00
	814 18

OFFICERS FOR 1871.

President,

W. S. CLARK, of Amherst.

Vice President,

CHARLES S. SMITH, of Amherst.

Secretary and Treasurer,

E. A. THOMAS, of Amherst.

Executive Committee.

J. P. GRAY, of Amherst,
W. B. KIMBALL, of Enfield,
TIMOTHY PUTNAM, of Leverett,
H. C. COMINS, of North Hadley,
J. M. SMITH, of Sunderland.

Auditor.

O. G. COUCH, of Amherst.

Member of State Board of Agriculture.

LEVI STOCKBRIDGE, of Amherst.

PRESIDENTS, SECRETARIES AND ORATORS

OF THE

HAMPSHIRE AGRICULTURAL SOCIETY.

PRESIDENTS.

1850–1–2–3–4.	ALFRED BAKER, Esq.
1855–6–7.	WM. P. DICKINSON, Esq.
1858–9.	N. A. SMITH, Esq.
1860–1.	Prof. W. S. CLARK.
1862–3–4–5.	Hon. LEVI STOCKBRIDGE.
1866.	LUKE SWEETSER, Esq.
1867.	AUSTIN EASTMAN, Esq.
1868.	Hon. LEVI STOCKBRIDGE.
1869–70.	LEVI P. WARNER, Esq.
1871–2.	President W. S. CLARK.

SECRETARIES.

1850–1–2–3–4–5–6–7–8.	J. W. BOYDEN, Esq.
1859–60.	Hon. L. M. BOLTWOOD.
1861–2–3.	A. P. HOWE, Esq.
1864–5–6–7.	M. N. SPEAR, Esq.
1868.	O. G. COUCH, Esq.
1869–70.	R. W. STRATTON, Esq.
1871–2.	Hon. E. A. THOMAS.

ORATORS.

1850. Prof. Wm. C. FOWLER.
1851. Hon. MARSHALL P. WILDER.
1852. W. C. GOLDTHWAITE, Esq.
1853. Rev. F. D. HUNTINGTON.
1854. Rev. W. A. CLIFT.
1855. Hon. C. L. FLINT.
1856. Pres. EDWARD HITCHCOCK, D. D.
1857. Hon. A. H. BULLOCK.
1858. Hon. N. P. BANKS.
1859. GEORGE P. WINSHIP, M. D.
1860. GEORGE B. LORING, M. D.
1861. Hon. EMORY WASHBURN.
1862. LUTHER H. TUCKER, Esq.
1863. Rev. F. D. HUNTINGTON, D. D.
1864. Hon. H. F. FRENCH.
1865. Prof. P. A. CHADBOURNE.
1866. Hon. SIMON BROWN.
1867. Prof. JOHN BASCOM.
1868. Hon. C. L. FLINT.
1869. GEORGE B. LORING, M. D.
1870. Prof. H. W. PARKER.
1871. Hon. P. A. CHADBOURNE, LL. D.

LIFE MEMBERS.

AMHERST.

FARMERS.

Adams Asa
Adams Mrs. Asa
Albee John E.
Ayers Elijah
Ayers Mrs. Elijah
Allen James W.
Allen Mrs. James W.
Baker Alfred
Baker Mrs. Alfred
Baker George
Baker Mrs. George
Baker Enos
Baker Joel
Bangs Danforth K.
Bangs Mrs. Danforth K.
Bartlett Lewis A.
Belden Horace
Billings Warren S.—removed
Blanchard Horace
Boltwood William
Boltwood Mrs. William
Braley John
Bridgman Guilford
Church Spencer
Clark Simeon
*Clark Mrs. Simeon
Cobb Henry
Cobb Mrs. Henry
Cooley Alden
Cooley Samuel D.
Cowles Chester
Cowles Clinton J.
Cowles Mrs. Clinton J.
Cowles Enoch
Cowles Mrs. Enoch
Cowles Erastus
Cowles Francis J.
Cowles James
Cowles Mrs. James
Cowles Jonathan Jr.
Cowles Mrs Jonathan Jr.
Cowles Levi D.
Cowles Mrs. Levi D.
Cowles Moses
Cowles Mrs. Moses
Cowles Ransom
Cowles Mrs. Ransom
Curtis O. H.
Curtis Mrs. O. H.
Dana Joseph
Dana Joseph D.
Darling B. R.
Dickinson Asa
Dickinson B. U.
Dickinson Mrs. B. U.
Dickinson Charles
Dickinson Daniel
Dickinson Mrs. Daniel
*Dickinson Enos
Dickinson Mrs. Enos 2d
Dickinson Joseph
Dickinson Josiah
Dickinson M. F.
Dickinson Mrs. M. F.
Dickinson Moses B.
Dickinson Mrs. Moses B.
Dickinson S. S.
Dickinson Mrs. S. S.
Dickinson William
Dickinson W. W.
Dickinson C. R.
Dutton Alonzo
Dutton Mrs. Alonzo
Eastman Austin
Eastman Mrs. Austin
Eastman Solomon K.
Eastman Charles A.
Eastman Mrs. Charles A.

Eastman George H
Eastman William
Fish Cummings
Gaylord Flavel
Gray Joseph P.
Gray Mrs. Joseph P.
Gunn Lyman
Harlow L. N.
Hastings Edmund
Hastings Mrs. Edmund
Hastings J. C.
Hastings Mrs. J. C.
Hastings Samuel
Hawley Harrison
Hawley Justin
Hawley Stetson
Hawley Mrs. Stetson
Hills Liberty
Hills Samuel
Hills S. T.
Hills Mrs. S. T.
Hobart Edmund
Hobart Mrs E
Hobart J W
Hobart Stillman
Hobart Mrs S
Hubbard, Hon R B
Hubbard Mrs R B
Ingram Harrison
Ingram Mrs H
Ingram Rufus
Ingram Lucius
Johnson Earle
Johnson Mrs E
Kellogg Eleazar
Kellogg Lyman
Kellogg Mrs Lyman
Kellogg Willard
Kellogg W M
Kellogg Mrs W M
Kellogg C H
Kellogg Mrs C H
King E A
Lincoln R S
Lincoln Mrs R S
Loomis A D
Lovett E B
Longley O S
Marshall A C
Marshall Mrs A C
McMaster Charles
McMaster Mrs C
McMaster Alvan
Merrick J E
Merrick Mrs J E
Merrill Calvin
Merrill Mrs Calvin
Mosman A A

Munsell G C
Munsell Mrs G C
*Nash Luther
Needham E H
Needham Mrs E H
Nash L S
Nims Seth
Paige F B
Paige Mrs F B
Pomeroy David
Pomeroy Mrs David
Reed Thomas
Reed Mrs T
Roberts J B
Smith John W
Smith, Mrs J W
Smith S D
Smith W B
Smith Mrs W B
Smith W W
Spaulding Philip D
Spaulding Mrs P D
Spear E P
Stanley E A
Sweetser Luke
Sweetser Mrs L
Thayer Charles E
Thayer Jason
Thayer Mrs J
Thayer Reuben
Thayer Mrs Reuben
Thurston Stillman
Warner George
Watson H D
Watson Mrs H D
Webster Charles N
White John C
White Mrs J C
White Martin
Whitney S W
Wiley Samuel
Wiley John
Wiley Mrs John
Williams Orin
Williams Mrs Orin
Williams Frederick
Williams Mrs F

NOT FARMERS.

Adams Charles
Adams John S
Adams Mrs John S
Adams John Q—removed
Ainsworth Forrester
Aldrich Charles P—removed
Allen Mrs H H
Allen Lysander H
Allen M Adams

Albee Mrs Lydia
Aldrich Nehemiah—removed
Allen B B
Bangs Charles H
Barnard Alvin
Barnard Mrs Alvin
Bartlett Mrs David
Bartlett Moses L
*Barrows William
*Belden Timothy C
Boltwood Lucius
Boltwood Hon L M
Bridgman Mrs May S
Briggs Ebenezer, removed
Burnham George, removed
Burnham Mrs George, removed
Bliss Zenas W, removed
Carter Samuel C
Carter Mrs S C
Chapin Otis H
*Church Elihu S
Church Mrs E S
Clapp Oliver M
Clark Prest W S
Clark Mrs W S
Clapp Miss Hattie
Chittenden Mrs Erastus
Crosier Mrs James
Clark Mrs Stillman D
Conkey Ithamar F
Conkey Mrs I F
Conkey Miss Jennie C
Conkey Edward
Conkey Miss Kate
Conkey William
Converse Daniel
Converse Mrs Daniel
Cook David S
Cook Mrs David S
Cook Enos F
Cook Mrs Enos F
Cooke Rev George, removed
Cooke Mrs George, "
*Cooley Moses D
*Cowles Mrs Jonathan
Cowles Miss Etta
Cowles Frank
Cushman Avery R
Cushman Mrs Avery R
Cushman Ephraim
Cushman Ephraim Jr
Cushman Mrs Ephraim Jr
Cushman John R
Cushman Mrs John R
Cushman Sanford C
Cushman Mrs S C
*Cutler E Pomeroy
Cutler Esther
Cutler George
Cutler Mrs George
*Cutler William
Cutler Mrs S F
Couch O G
Couch Mrs O G
Deuel Charles
Deuel Mrs Charles
Dexter David
Dickinson Hon Edward
Dickinson Mrs Edward
Dickinson Emily E
*Dickinson Enos
Dickinson Miss Charlotte
Dickinson Miss L N
Dickinson Miss Lovina
Dickinson Miss Lydia
Dickinson Mrs Oliver
Dickinson Porter
Dickinson Miss Sarah M
Dickinson Waitstill
Dickinson Mrs W
Dickinson William A
Dickinson Mrs W A
*Dickinson William E
Dickinson Mrs Mary
Dillon John C
Dunlap Samuel
Dunlap Mrs Samuel
Eastman Mrs Baxter
Eastman Mary C
Emerson Mrs Sarah E
Edwards Simeon E
Ferry Miss Sarah P, removed.
Fearing H D
Fisher Miss Fidelia
Fish Mrs Seth
French Miss Mary
Field E G
Field Mrs E G
Fitts Elijah B
Gallond George B
Gaskill Chester
Gates Sandford
Gaylord Mrs William
Graves George
Goodale Lewis
Gunn William F
Gunn Mrs William F
Hall Mrs J B
Hastings James
Hastings Mrs James
Hastings Mrs Thomas
Haskins John H
Haskins Mrs J H
Haskins H W
Haskins Mrs H W
Hawley C M, removed

Hayward Mrs C F
Harrington S F
Harrington Mrs S F
Hills H F
Hills L M
Hills Mrs L M
Hills D L
Hitchcock Prof E
Hitchcock Mrs E
Hobart G W
Hobart Mrs G W
Hobart Hattie S
*Hobart Joshua
Hobbie W H
Howard M W
Howard Mrs M W
Howard R H
Howland W S
Howland Mrs W S
Hubbard E D
Hubbard Mrs E D
Hunt O D
Hutchinson C E
Howard Mrs S A
Henderson Hon Horace, removed
Henderson A R, removed
Henderson Mrs A R, removed
Hunt William W
Howard Mrs H C
Ingraham Ezra
Jackson Henry
*Johnson Orin
Jones Mrs Mary
Joy H N
*Kellogg James
*Kellogg Mrs William
Kenfield C S
Kellogg H C, removed
King Mrs C A
Kendrick B F
*Leland Mrs John
Leach B F
Lovell J L
Lovell Mrs J L
Lewis Hattie E, removed
Marsh H A
Marsh Mrs H A
Mather Mrs William E, removed
Mayo Mrs Noah
McCloud H M
McCloud Milton
McCloud Mrs Milton
Merrill Miss H O, removed
*Merrick Rev James L
Montague George
Montague G C
Nash Mrs Charles
Nash Henry C
Nash Mrs H C
Nelson Miss Julia C
Olney Mrs Almira
Parker G L
Palmer D W
*Palmer Mrs D W
Palmer Miss S D
Palmer F A
*Palmer Mrs F A
Pomeroy L H
Pomeroy Mrs L H
Potwine Thomas, removed
Park J W, removed
Roberts Reuben
Rich Alpheus, removed
Roberts Mrs F H
Robinson Ferdinand, removed
Robinson Mrs F, removed
*Robbins Alva
Russell Emerson
Russell Mrs Emerson
Russell Calvin
Russell Mrs Calvin
Saxton W H
Scott Nelson Rev, removed
Stratton R W
Stratton Mrs R W
Sisson John
Sisson L W
Sisson T T
Shepard Prof C U
Skinner J L
Smith Mrs B F
Smith Mrs Timothy
Snell Prof E S
Snell Mrs E S
*Spear Lyscom
Spear Mrs S
Spear M N
Stearns William A, D D
Storrs C L
Stockbridge Hon Levi
Stockbridge Mrs Levi
Stockbridge H D
Stratton Mrs Chester
Seelye Prof L C
Temple Theron, M D
Taylor I H, M D
Taylor Mrs I H
Turner Mrs E G
Thomas Hon E A
Tuckerman Prof Edward
Turner Mrs Rodolphus, removed
Tyler Prof W S
Tyler Mrs W S
Upton Miss E C
Whitney, Miss Hattie
Whitney Mrs S W

Wiley Miss Dolly T
Ward Horace
Ward Mrs Horace
Warner Aaron, D D
Warner David S
*Watson Oliver
Watson Mrs Oliver
Westcott J T
Whipple George A, removed
Williams Lucas
Williams Mrs Enos D, removed
Woodworth C L Rev, removed
Woodworth Mrs C L, removed
Wright Sylvanus M, removed
Young J J

ATHOL

Putnam Rufus
Putnam Mrs Rufus
Horr George W Esq
Horr Mrs George W

BALTIMORE, MD.

Brown Smith
Wheelock Dana

BERNARDSTON

State Jonathan S

BOSTON.

Flint Hon C L
French Hon H F
*Howe George
Rowe Mrs A C
Shaw G L
*Smith Alvin
Wetherell Leander
Wilder Hon Marshall P
Woodman G S, M D
Woodman Mrs G S

BELCHERTOWN.

FARMERS.

Alden Thomas
Barrett Leonard
Bridgman Phineas
Cook Olney
Cook L V B
Dunbar Chas T
Dwight Nathaniel
Eaton Calvin D
Goodale Asahel
Howard A B
Montague Ephraim
Owen A R
Perkins S G
Russell F H
Stacy A W
Sabin Lyman
Thayer Martin
Thayer Savannah A
Thayer Mrs S A
Walker Emory P
Webster Jonathan

NOT FARMERS.

Chandler George
Chandler Mrs George
Chandler Henry J
Clark Norman P
Clark Mrs N P
Cowles Samuel D
Dickinson Samuel, removed
Goodale Rufus
Graves Mrs William
Hall Levi B, removed
Hannum Geo O, removed
*Hannum Lyman W
Hannum Mrs L W
Holland Mrs Luther
Owen W C
Packard Joel
Thayer Morris, removed
Thayer Manser R
Thayer Mrs Rufus
*Thayer Wm
Thayer Mrs Wm
Thompson F M D
*Wilson Asa
Wilson Mrs Asa
*Wiley Otis

BRIGHTON.

Clark Rev Sereno D
Clark Mrs S D

CHICAGO, ILL.

Boyden Hon J W
Dickinson W P
Dickinson Mrs W P
Haven Joseph D D
Haven Mrs J
Hubbard Orton
Pierce Francis A
Tapley Geo W
Payson Joseph K

CLINTON, N. Y.

Swift Rev E Y
Swift Mrs E Y

COVENTRY, VT.

*White Rev P H

COLERAINE.

Sprague Joseph G

CONWAY.

Brown J F
Johnson G H
Montague Warren
Montague Mrs Warren

DEERFIELD.

Ely John D
Fogg Josiah
Mosher Chas
Rust H N
Stebbins B F
Stebbins Evander G
Stebbins Moses
Stebbins Mrs Moses

DURHAM, CONN.

Fowler Prof W C

EASTHAMPTON.

Colton Rev A M
Colton Mrs A M
Matthews Horace
Sabin Sherman
Sabin Mrs Sherman
Williston Hon Samuel

ENFIELD.

FARMERS.

Blodgett David
Fobes Henry
Howe J J
Hunt Horace
Kimball W B
Kimball C H
Martindale J W
Porter Lyman D
Randall Alvin
Root Joseph
Shearer L F

NOT FARMERS.

Abbott Frederick
Ballou Hiram, removed
Gillette Hon D B
Moody Augustus
Randall Ozias
Smith E P
Smith H M
Woods C F
Woods Hon J B
Woods Hon R D
Wood Joseph E

ERVING.

Stone J E

FREEDOM, PENN.

Howe A P
Howe Mrs A P.

GRANBY.

FARMERS.

Ayres Rodney
Barton James M
Barton P D
Clark Augustus
Clark Charles F
Clark Spencer
Dickinson S B
Eastman S F
Eastman Mrs S F
Ferry Charles S
Ferry Lucius
Montague Giles F
Montague Holland
Patrick W D
Preston J H D
Richardson Orsemus
Smith Geo F
Smith Jared C
Smith Nelson
Smith Samuel Jr
Smith Mrs Samuel Jr
Smith W A
Stanley H F
Warner Alonzo
Warner Park
Witt Horace

NOT FARMERS.

Aldrich C C
Chapin Philo
Lyman David
Lyman George J
Stebbins Cyrus
Taylor M A

GRANBY, CONN.

Gaylord Ebenezer
Gaylord Mrs Ebenezer

GRAND RAPIDS, MICH.

Cutler Robert
Cutler Mrs Robert

GREENFIELD, N. H.

Downs A S

GREENFIELD.

Davis Hon G T

GREENWICH.

Carter John
*Douglas Stephen
Warren S M

HADLEY.

FARMERS.

Adams Benjamin
Adams Mrs Benjamin
Adams Chas W
Ashcroft John O
Baker John A
Carter B T
Chapin Edwin
Cook George E
Comins Simon F
Comins James
Comins H C
Comins Mrs Ellen
Cowles Daniel
Cowles Mrs Daniel
Cowles David S
Cowles Mrs David S
Cowles Lewis
Cowles Mrs Lewis
Cowles John S
Davis Warren N
Dickinson Alphonzo
Dickinson Mrs A
Dickinson George
Gray Amos
Gray Chester
Green Dorus
Green Henry
Green Linus
Green Mrs Linus
Hawley F A
Hawley W F
Hibbard E P
Hibbard Mrs E P
Hibbard S S
Hibbard Mrs S S
*Hibbard Willard
Hibbard Mrs Willard
Huntington T G
Huntington Mrs T G
Hurd H C
Ingram F E
Kellogg J C
Kellogg B A
Kellogg Stillman
Kellogg Mrs Stillman
Kenfield J B
Kenfield Mrs J B
Lamson C E
Montague Royal M
Morton J A
Morton Mrs J A
Newton Walter
Nash John W
Newton William
Newton Mrs William
Pasco Theodore
Pasco Mrs Theodore
Powers Alford
*Powers Mrs Alford
Russell Horace
Russell Mrs Horace
Russell John
Russell Mrs John
Russell Samuel
Russell W H
Richardson H L
Shattuck J H
Smith George C
Smith Mrs G C
Smith Chester
Smith Edmund
Smith Enos D
Smith Mrs Enos D
Smith H E
Smith Jereiah S
Smith Hon Joseph
Smith Mrs Joseph
Smith Oliver E
Smith 2nd Roswell
Smith 2nd Mrs Roswell
Smith Thaddeus
*Smith Mrs Thaddeus
Tower Samuel
White Moses
Warner W P
West Parsons
West Mrs Parsons
Wilder S C
West Lewis
Wright D A

NOT FARMERS.

Adams Levi
Adams Mrs Levi
Adams Frank E
Bartlett D H
*Beaman Jonas
Bonney Franklin M D
Bonney Oliver E
Clark John

Clemons Mrs Horace
Cooley Mrs S F
Cowles Elijah
Cowles Mrs Elijah
Dickinson C D
Dickinson E S
Dwight Rev E S
Dwight Mrs E S
Granger L N
Granger Mrs L N
Hayward E E
Hill Roderic B
*Hooker Benjamin
House Albert R
Huntington Mrs T P
*Kellogg Mrs Martin
Lawrence Hubbard
Marsh H M
Marsh T S
Nash Mrs Samuel
Porter Edwards J, removed
Porter Eleazer
Scott Mrs Rufus
Shipman Wm S
Smith Chas
Smith Charles H, removed
*Smith Mrs Cotton
*Smith Erastus
Smith Francis
*Smith Giles E
Tuxbury Rev Franklin, removed
Tuxbury Mrs removed
*Wallace Addie
White David, removed
Wood George, removed
White S G
*Williams P Smith
*Williams Mrs P Smith

HARTFORD, CONN.

Faxon William
Fuller Walter

HATFIELD.

FARMERS.

Dyer L S
Fitch G W
Hubbard I W
Porter H S

HOLYOKE.

Dickinson Edward

IOWA.

Strickland W G
Strickland Mrs W G

KEENE, N. H.

Sprague J G

KEY WEST, FLA.

Allen B W

LEVERETT.

FARMERS.

Adams Alden
Ashley Marvin
Ashely Mrs Marvin
Ball Silas
Bangs Howard
Bontwell Levi
Boutwell Mrs Levi
Boutwell Samuel W
Boutwell Mrs Samuel W
Field Abner
Field Mrs Abner
Field Asa L
Field Mrs Asa L
Field Charles H
Field Mrs Charles H
Field H O
Field Mrs H O
Field Harrison
Field Moses
Field Mrs Moses
Field Zebina
Graves Elmer
Howard Baxter
Ingram Elisha
Jones Edward
Kimball David
Leach Chester
Leach Mrs Chester
Lock Ezekiel
Lock Mrs Ezekiel
Porter Cephas
Putnam Timothy
Putnam Mrs Timothy
Rice Josiah
Rice Mrs Josiah
Smith Wm H
Smith Mrs Wm H
Taylor Wm
Thurber C W
Thurbur Mrs C W
Wood Seth

NOT FARMERS.

Ball Orus
Ball Mrs Orus
Clark W W, removed
Cutter Mrs Seneca
Dunklee Hezekiah, removed
Field Alden C
Field Mrs Alden C

Field Carrie M
*Fitts Nathan H
*Gilbert L A
*Graves Kellogg
Hobart B R, removed
Hobart Mrs B R, removed
Hobart Charles D
Hobart Colbum
Hobart Peter
Hobart Spencer, removed
Hubbard George
*Hubbard Roswell
Ingraham Elijah, removed
Leach H S
Leach Mrs H S
Lyman W H
Lyman Mrs W H
Moore Dexter
*Marvell J O
Nutting Lucius, removed
Nutting Ransom, removed
Rice David
Rice Mrs David
Strong Mrs A A
Smead Mrs S S, removed
Willis Lawson S, removed
Wood Ira, removed
Wood Mrs Ira, removed
Woodbury Mrs Jason
Woodbury Jason H, removed

LONGMEADOW.

Goldthwaite W C Esq

LOCKPORT, N. Y.

Sears Simon

LODI, Ill.

Hunt James

LYNN.

Fuller S B

MINN.

Farrar Mrs G H
Nutting Truman
Nutting Mrs Truman

MELROSE, PENN.

Guernsey Mrs Martha

NORTHFIELD

Brown Charles T
Brown Mrs Charles T

OSHKOSH, WIS.

*Kellogg Ansel
*Kellogg Wm
Russell C R

MT. PALATINE, ILL.

Wright Abram

MONTAGUE.

FARMERS.

Boutwell W H
Cook H B
Paine Alonzo
Paine Mrs Alonzo
Spaulding Peter Jr
Smith Charles
Shaw Thaxter

NEW SALEM.

*Dean Richard
Eastman Rev David
Eastman Mrs David
Haskins Nelson
*Bowers Samuel
*Bowers Mrs Samuel

NEW YORK CITY.

Ford Mrs Emily
*Harrington Samuel
Harrington Mrs Samuel
Hawks Charles
Nash John A, Rev
Nash Mrs John A
Shipman John Jr.,
Smith Prof H B
West Joseph J

NORTHAMPTON.

Baker Hon Osmyn
*Barrett Benjamin M D
Chase L A
Childs Paris
Clapp D M
*Clark Wm
*Clark Wm Jr
Dickinson Geo P
*Hinckley S L
Hillyer Winthrop
Kirkland Harvey
Lewis Lucius
Parsons Charles T
Parsons Samuel L
Peck A P
Ranney David
Shepard Asher
Shepard Henry
Smith S M
Strong Ebenezer
Strong Elisha
Strong William
Thayer Justin
Trumbull James R

Trumbull Mrs James R
Washburn L I
*Wells Samuel
Wright Ansel

OTISCO, N. Y.

Clark Luke M

OREGON.

Warren James R

PELHAM.

*Aldrich Tyler D
Boyden Sanford
Buffum Thomas
Cook Nathaniel
Cook Mrs Nathaniel
Fales Abijah
Fales Daniel
Gates Asahel
Jewett Sylvester
Jewett Mrs S
Keith A C
Newell L A
Newell Mrs L A
Rankin A A
Rankin Mrs A A
Shaw Jr John
Thayer Jacob
Ward Joseph G
Cadwell Aretus J, removed
Cadwell Mrs Aretus J, removed
Gray C D
Gray Mrs C D
Gray Horace
Gray Mrs H
Jones Rev John
Newell Miss Mary A
Russell John, removed
*Thompson E C

PALMER

Chapman Mrs Mary
Field E S
Reed James
Shaw E B
Stever Col Jacob

PHILADELPHIA, PA

Arnold W A
Montague Albert
Wilson John W

PITTSFIELD

Frink Henry
Frink Mrs Henry

PRESCOTT

*Chapin E W
Freeman A W
Johnson L S
*Paige Christopher

PROVIDENCE, R. I.

Leonard D M
Smith Hon J Y

ROCKFORD, ILL.

Bartlett Mrs Harvey

ROSEMOND, ILL.

Smith Brainard
Smith Mrs Brainard

SALEM.

Jewett Rev G B

SARATOGA, N. Y.

Crapo Mrs Asubah

SHARON, ILL.

Godfrey William B

SOUTHAMPTON.

Edwards Elisha

SHUTESBURY.

*Adams S Ward
Bartlett Moses
Dudley S F
Dudley Mrs S F
Fitts Edward
*Howe A S
Newell Samuel
Shores David
Stetson W B

SOUTH HADLEY.

FARMERS.

Allen Levi W
Alvord Hervey
Bates Emerson
Bates S A
Clark Marcellus
Judd A T
Judd Edward H
Judd Edwin H
Lathrop Paoli
Lathrop Mrs Paoli
Montague Newton C
Moody Hovey
Nash Thomas M

NOT FARMERS.

Brainard Sylvester
Fisher Rev George E
Fisher Mrs George E
Gaylord Lorenzo
Judd Watson S
Kellogg Amos
Lyman Lorenzo W
Lyman Mrs Lorenzo W
Montague Elliot
Moody Alvin
Preston Joseph S
Smith E L
Smith Gilbert A
Smith Mrs Gilbert A
Smith G Morgan
Smith Henry N
Smith Jason
Smith Mrs Jason
Snow Mrs Sheldon
Smith Philip

SUNDERLAND.

FARMERS.

Adams J G
Brown Sylvester
Brown Mrs Sylvester
Beals George N
Childs Israel
Childs Mrs Israel
Chittenden L O
Chittenden Mrs L O
Clark E G
Crocker Daniel B
Crocker Stoughton D
Crocker Mrs S D
Crocker Zacheus
Cooley Geo L
Cooley Mrs G L
Cogswell M B
Delano A C
Delano Mrs A C
Delano Jesse L
Dickinson E P
Dickinson Mrs E P
Graves Alden
Graves Geo W
Graves H D
Graves Timothy
Graves Mrs Timothy
Gunn Isaac S H
Hobart Albert
Hobart Mrs Albert
Hubbard Alanson
Hubbard Mrs A
Hubbard Kelita
Hubbard Claudius B
*Hubbard Mrs C B
Hubbard David, removed
Hubbard Mrs David, removed
Hubbard Parker D
Hubbard Mrs P D
Hubbard Martin L
Hubbard Mrs M L
Hubbard Moses
Hunt Melzar
Hunt Zebina
Hunt Mrs Z
Newton Lyman A
Prouty James B
Robinson E E
Robinson Mrs E E
Robinson John R
Russell Emmons
Russell Mrs Emmons
Russell Wm W
Russell Mrs Wm W
Smith Edward N
Smith Mrs E N
Smith John M
Smith Mrs John M
Smith John R
Smith Nathaniel
Smith Mrs N
Smith N Austin
Smith Mrs N A
Warner Levi P
Warner Mrs L P
Warner Wallace R
Warner Mrs W R
Wiley Ebenezer
Wiley Mrs E
Williams Franklin
Williams Oliver

NOT FARMERS.

Bowman William, removed
Bowman Mrs William
Bartlett Mrs Dexter
*Cooley Charles
*Darling B C
Darling Mrs B C
Dickinson Mrs R
Dunklee B F, removed
Field Erastus S
Gaylord William, removed
Graves Mrs Hannah
*Graves Mrs Marian
Hemenway Mrs B C, removed
Hubbard Mrs Ashley
Hubbard Avery D
Hubbard Mrs A D
*Hunt William
Hunt Mrs William

Lyman Horace
*Montague John G
Montague John
Montague Mrs John
Pomeroy Wm D, removed
*Richards Perrin D
Richards Mrs Perrin D
Russell Mrs A N
Russell Austin R, removed
Russell J Wiley "
Russell Mrs J Wiley "
Rowe Appleton E "
Rowe Mrs A E "
*Sanderson Eli
*Smith Austin
Smith Mrs Austin
Smith Elihu, removed
Smith Mrs Elihu "
Trow, N G, M D
Trow Mrs N G
Warner Chester
Warner Luther C
Whitemore D D
*Williams Henry C
Williams Mrs Henry C

SPRINGFIELD.

Briggs J L
Chaffee Hon C C
Crouch J S
Hubbard Caleb T
Montague Isaac W

SYRACUSE, N. Y.

Huntington Rt Rev F D, D D

TAUNTON.

Sanford Rev John
Sanford Mrs John

WARE.

FARMERS.

Andrews W G
Bowen Sylvester
Breckenridge Hon W S
Devens Arthur L
Devens Mrs A L
DeWitt Francis

NOT FARMERS.

*Gilbert Hon G H
Gilbert Mrs G H
Phelps Samuel H
Rice Joel
Richards F D
Sage Orrin
Stevens Hon C A

WENDELL.

*Ballard Daniel
Whitaker A G

WESTBORO.

White Samuel N
White Mrs Samuel N

WILLIAMSBURG.

Bartlett N G
Graves L N

WILMINGTON, VT.

Smith, N W, M D
Smith Mrs N W

WORCESTER.

Bullock Hon A H
Cummings Rev E A
Cummings Mrs E A
Chamberlain, C N, M D

WHATELY.

Graves C A
Ludden Parmenus

WEST BROOKFIELD.

Aiken Benjamin P

Any member whose name is not found in the above list is requested to report the fact to the Secretary.

Cotswold Buck and Ewe.

The Property of L. A. CHASE, Esq., Northampton, Mass.

TWENTY-THIRD

ANNUAL EXHIBITION

OF THE

HAMPSHIRE AGRICULTURAL SOCIETY,

At Hampshire Park, Amherst, Mass., Tuesday and Wednesday, Sept. 24 *and* 25, 1871.

FIRST DIVISION.---CATTLE SHOW.---TUESDAY.

Class 1—Town Teams.

For town strings of oxen, not less than 10 pairs, $1 per yoke.
For the best string of not less than 20 pairs from any one town, $10

Class 2—Oxen.

For the best yoke of oxen ; five premiums, $5, 4, 3, 2, 1

Class 3—Trained Oxen and Steers.

For the best pair of working oxen, five years old and upwards ; five premiums, $5, 4, 3, 2, 1
For the best pair of trained steers, not more than two years old ; three premiums, $3, 2, 1

Class 4—Steers.

For the best pair,	three years old	; four premiums,		$4, 3, 2, 1
"	two	"	"	4, 3, 2, 1
"	one	"	"	4, 3, 2, 1

Class 5—Milch Cows.

For the best	Short-horn milch cow;	four premiums,		$4, 3, 2, 1
"	Ayrshire	"	"	4, 3, 2, 1
"	Devon	"	"	4, 3, 2, 1
"	Jersey	"	"	4, 3, 2, 1
"	native or grade	"	"	4, 3, 2, 1

Class 6—Herds of Milch Cows.

For the best herds of milch cows, not less than five; three premiums, $6, 5, 4

Class 7.—Heifers, Less than Four Years Old.

For the best heifer, less than four years old; four premiums, $4, 3, 2, 1

Class 8—Bulls.

For the best	Short-horn Bull;	two premiums.			$5, 3
"	Ayrshire	"	"	"	5, 3
"	Devon	"	"	"	5, 3
"	Jersey	"	"	"	5, 3

Class 9—Calves.

For the best	pair of steer calves;	three premiums,	$3, 2, 1
"	thoroughbred bull calf	"	3, 2, 1
"	heifer calf	"	3, 2, 1

Class 10—Herds of Cattle.

For the best herd of not less than ten head; five premiums, $5, 4, 3, 2, 1

Class 11—Swine.

For the best	Chester boar;	three premiums,		$5, 3, 1
"	Berkshire	"	"	5, 3, 1
"	Essex	"	"	5, 3, 1
"	Suffolk	"	"	5, 3, 1

For the best thoroughbred sow of any kind ; four premiums,	4, 3, 2, 1
For the best sow and pigs ; four premiums,	4, 3, 2, 1
" three weaned pigs, not more than five nor less than three months old ; four premiums,	4, 3, 2, 1

Class 12—Poultry.

For the best cock and two hens of any breed ; five premiums,	$5, 4, 3, 2, 1
For the best pair of turkeys ; three premiums,	3, 2, 1
" ducks ; two premiums,	2, 1
" pigeons "	2, 1
" pea fowls "	2, 1
" Guinea fowls "	2, 1

Class 13—Sheep.

For the best Cotswold buck ; three premiums,	$4, 3, 2
" Southdown " "	4, 3, 2
" Merino " "	4, 3, 2
" lot of ewes, not less than six in number ;	5, 4, 3
For the best lot of lambs " "	3, 2, 1

SECOND DIVISION.---EXHIBITION AT HAMPSHIRE HALL.

Class 14—Mechanic Arts and Farm Implements.

This class includes plows, diggers, harrows, rollers, drain tile and implements used in preparing the soil for the crop. Seed sowers, horse and hand hoes, cultivators, garden rakes, and implements used in after culture. Mowers, reapers, grain cradles, scythes, hay tedders, corn cutters, rakes, baskets, and other implements used in gathering the products of the soil. Threshing machines, flails, corn-shellers, broom-corn scrapers, winnowing mills, straw and vegetable cutters, models of steaming and other apparatus used in preparing food for man or beast. Churns, butter workers, cheese presses and articles used in the dairy. Boots and shoes, harnesses, saddles and bridles. Also, machines and implements used by ladies in manufacturing wearing apparel, sewing machines, knitting machines, needles, thimbles, scissors, &c.

To be awarded in this class, Diplomas and $60.00

Class 15—Domestic and Other Manufactures.

This class includes carpets, rugs, mats, bed quilts, counterpanes, patchwork, table linen, collars, linen hose, woolen blankets, flannel, frocking, yarn, mittens, socks, &c.

For all articles in this class, Diplomas and $20.00

Class 16—Fancy Articles.

This class includes fancy mats, rugs, ottomans, sofa pillows, curtains, tidies, lamp-mats, hair, cone, shell or wax work, slippers, collars, toilet sets, paintings on canvass, paper, glass or any other surface, engravings, lithographs, designs and drawings, photographs (plain and colored) and other impressions made by the action of light, specimens of printing, book binding, globes, maps, charts and all apparatus for instructing in science, specimens of penmanship, plain and ornamental, pianos, organs, melodeons and other musical instruments, etc., ect.

For all articles in this department, Diplomas and $30.00

Class 17—Bread.

For the best sample of Wheat bread ;	two premiums,	$2, 1
" " Rye "	"	2, 1
" " Rye and Indian bread	"	2, 1
" " Bread made by a girl fourteen years old or under ; two premiums,		2, 1

Class 18—Butter and Cheese.

For the best ten pounds of butter : four premiums,	$4, 3, 2, 1
" " twenty pounds factory cheese ; three premiums,	5, 3, 2
" " twenty pounds home-made ; two premiums,	3, 2

Class 19.—Honey, Wines, Jellies, Canned and Dried Fruits, Pickles, Maple Sugar and Syrup.

For the largest collection of honey bees, with statement of number and kind of hives and general management of the same ; three premiums,	$5, 3, 2
The committee will award in premiums for the best specimens of other articles in this class,	10 00

Class 20.—Fruits.

For the best display of miscellaneous fruits; four premiums,	$4, 3, 2, 1
For best basket of assorted fruit; three premiums,	3, 2, 1
" coll. apples raised by exhibitor; four premiums,	4, 3, 2, 1
" " pears " " " "	4. 3, 2, 1
" " peaches " " three premiums,	3, 2, 1
" " quinces " " " "	3, 2, 1
" " grapes " " four premiums,	4, 3, 2, 1
" " cranb's " " two premiums,	2, 1

Class 21.—Vegetables, Seeds, Grains and Roots.

For the best coll. garden vegetables; three premiums,	$3, 2, 1
" peck of potatoes; two premiums,	2, 1
Largest variety of potatoes, 1 peck each kind; two premiums,	2, 1
For the best peck of onions; " "	2, 1
" twelve carrots; " "	2, 1
" " parsnips; " "	2, 1
" " flat turnips; " "	2, 1
" " ruta bagas; " "	2, 1
" " beets; " "	2, 1
" " tomatoes; " "	2, 1
" six winter squashes of any kind; " "	2, 1
" six cabbages; " "	2, 1
" six pumpkins; " "	2, 1
" twelve ears of sweet corn; " "	2, 1
" trace of seed corn; " "	2, 1
" bushel of winter wheat; " "	2, 1
" " spring " " "	2, 1
" " rye; " "	2, 1
" " oats; " "	2, 1
" collection of flower or vegetable seeds of not less than ten sorts, raised by exhibitor; two premiums,	2, 1

Class 22.—Flowers.

For the best collection of flowers, regard being had to size, beauty and variety; four premiums,	$5, 3, 2, 1

For the best collection of asters ;	two premiums,	$2, 1
" " everlastings ;	" "	2, 1
" " dahlias ;	" "	2, 1
" " verbenas ;	" "	2, 1
" " wild flowers ;	" "	2, 1
" " gladioluses ;	three premiums,	3, 2, 1
" " ornamental work in seeds and fruits ;	two premiums,	2, 1

THIRD DIVISION.---HORSE SHOW.---WEDNESDAY.

Class 23.—Town Teams.

For the largest collection of horses from any one town ; three premiums, $10, 8, 5

Class 24.—Stallions.

For the best stallion not less than four years old ; three premiums. $10, 5, 3

Class 25.—Breeding Mares with Sucking Colts.

For the best breeding mare with sucking colt ; three premiums, $5, 3, 1

Class 26.—Colts and Fillies.

For the best three year old stallion ; three premiums,	$3, 2, 1
" three year old gelding or filly ; three prem.	3, 2, 1
" two year old colt or filly ; three premiums,	3, 2, 1

Class 27—Farm Horses.

For the best pair of farm horses; five premiums,	$5, 4, 3, 2, 1
" single farm horse; five premiums.	5, 4, 3, 2, 1

Class 28—Carriage Horses.

For the best pair of carriage horses; five premiums,	$5, 4, 3, 2, 1
" single carriage horse; five premiums.	5, 4, 3, 2, 1

Class 29—Roadsters.

For the best roadster to wagon; five premiums.	$5, 4, 3, 2, 1

Class 30—Jacks and Mules.

For the best jack; two premiums,	$5, 3
" jenny ; two premiums,	3, 1
" pair of mules ; two premiums.	5, 3

FOURTH DIVISION.---EXPERIMENTS, CROPS, ARBORICULTURE, ESSAYS.

Experiments.

For the most thorough and reliable experiment on the application of manures, entries to which were made previous to June 15th, 1872 ; two premiums,	$10, 5

Pasture Lands.

For the best experiment in reclaiming or improving worn out lands so as to increase their value for pasturing, commencing in 1872 and continuing three years, entries to be made before June 15th, 1872 ; two premiums,	$10, 5

Cranberries.

For the best conducted experiment in raising cranberries on not less than ten rods of land, with written statement ; two premiums,	$5, 3

Forest Trees.

For the best plantation of not less than five hundred oak or other forest trees, suitable for ship timber, planted by the competitor ; two premiums,	$5, 3
For the largest number of sugar maple, or other ornamental trees, not less than thirty in number, set out in 1872, and in good condition September 15th, 1872 ; two premiums,	$5, 3

Orchards.

For the best orchard of not less than fifty apple or pear trees in one lot, regard being had to their form, vigor and variety ; two premiums,
Harris' Report on Insects, and Diploma.

Pear Trees.

For the best thirty pear trees set out during the year 1872 ; and in good condition, September 15, 1872 ; two premiums, Harris' Report on Insects, and Diploma.

Apple Trees.

For the best thirty apple trees set out in 1872, and in good condition September 15, 1872 ; two premiums,
Harris' Report on Insects, and Diploma.

Peach Trees.

For the best thirty peach trees set out in 1872, and in good condition September 15, 1872 ; two premiums,
Harris' Report on Insects, and Diploma.

Grape Culture.

For the best experiment in growing grapes, on not less than one-fourth of an acre of ground, entries to be made on or before July 15, 1872. Statements to be made in writing of the soil, manner of planting, and crop of 1872, on or before October 15, 1872 ; two premiums, Harris' Report on Insects, and Diploma.

Farms.

For the best kept farm, regard being had to thorough cultivation, neatness of premises, condition of fences, fields and stock, and freedom from injurious plants and insects. Entries to be made on or before June 1st, 1772, and premium to be awarded in 1873 ; three premiums, with Diplomas, 10, 8, 5

Vegetable Gardens.

For the best vegetable garden for family use. Entries to be made before June 1st, 1872, and to be visited by the Committee not less than three times ; three premiums, 5, 3, 1

Crops.

For the best conducted experiments in raising one-fourth acre of onions, potatoes, carrots, cabbages, mangels, sugar beets, Hungarian grass and winter squashes. Entries to be made with the Secretary on or before June 1st, 1872 ; for each, two premiums, 3, 1

Reports and Essays.

For the best report by the chairman of any examining committee, to be published in the transactions of the Society ; five premiums, $8, 6, 4, 2

For the best essay on one of the following subjects ; four premiums, $8, 5, 4, 2

1. Desirable Improvements in the Agriculture of Hampshire County.
2. Report on the Farms and Farming of any town within the limits of the Hampshire Society.
3. Fences.
4. Commercial Fertilizers.

All persons competing for these premiums must file their essays with the Secretary on or before September 1st, 1872. Each essay to be signed with a fictitious name and accompanied by a sealed envelope, bearing the same signature on the outside, and containing within the real name of the author.

GENERAL RULES.

The above premiums are offered to all competitors throughout the Commonwealth; and will be paid according to the award of the Examining Committees, subject to the revision of the Executive Committee.

No reference will be had to any premiums, which may have been previously awarded by this or any other Society. No animal or article can compete in more than one class, except those in Town

Strings, Herds or General Collections, which may also be entered for one other premium.

All Entries must be made before 10 o'clock A.M., on the day of exhibition, and may be made in writing at any time previous. Descriptive cards will be furnished by the Secretary, giving the name of the owner and the number and class of the entry, which must be attached to animals and articles competing for premiums. Exhibitors are requested to furnish written statements respecting their entries and to see that specimens of Fruits, Flowers and Vegetables are correctly named while in the Hall. An accurate statement respecting the amount in pounds of milk and butter produced during a period of ten consecutive days by milch cows entered for premiums must accompany the entry. The weight of Oxen (Class 2,) Bulls, Stallions and Farm Horses as determined by an authorized weigher must be given at the time of entry, and be written upon their descriptive cards.

Working Oxen and Farm Horses must be driven for trial as directed by the Committee, but the load shall not exceed one ton per animal and shall be drawn only upon the track. Both classes may be tried upon the plow, and docility will be regarded as of great importance.

Examining Committees are specially instructed to award premiums according to the absolute merit of animals and articles exhibited. If none of those entered are of first quality, then no first premium should be awarded, but only the highest to which each entry may be justly entitled.

Competitors who are not members of the Society will receive but fifty per cent. of premiums awarded them; but all such persons are cordially invited to become members and enjoy their privileges.

No animal may be removed from the Park before 2 o'clock, P.M.; and articles in the Hall must remain till 4 P.M. of the second day.

Premiums not called for before December 1st, 1872, will be forfeited.

W. S. CLARK, *President.* E. A. THOMAS, *Secretary.*

C. S. SMITH, *Vice President,*
J. P. GRAY, of Amherst,
TIMOTHY PUTNAM, of Leverett,
LEVI P. WARNER, of Sunderland,
HENRY C. COMINS, of Hadley,
W. B. KIMBALL, of Enfield,
Executive Committee.

OFFICERS FOR 1872.

President,

W. S. CLARK, of Amherst.

Vice President,

CHARLES S. SMITH, of Amherst.

Secretary and Treasurer,

E. A. THOMAS, of Amherst.

Executive Committee,

J. P. GRAY, of Amherst,
TIMOTHY PUTNAM, of Leverett,
LEVI P. WARNER, of Sunderland.
H. C. COMINS, of North Hadley,
W. B. KIMBALL, of Enfield,

Auditor,

O. G. COUCH, of Amherst.

Member of State Board of Agriculture.

LEVI STOCKBRIDGE, of Amherst.

TRANSACTIONS

OF THE

Hampshire Agricultural Society,

WITH THE

LIST OF OFFICERS,

AS WELL AS

PROFESSOR STOCKBRIDGE'S ADDRESS, T. G. HUNTINGTON'S REPORT, TREASURER'S REPORT, LIST OF PREMIUMS, &C.

FOR THE YEAR 1872.

AMHERST:
HENRY M. McCLOUD, PRINTER AND BOOKBINDER.
1872.

ADDRESS.

DOES FARMING PAY?"

BY HON. LEVI STOCKBRIDGE.

Your Association was organized and has been supported by public appropriation, by private donations, and much hard labor, for the purpose of stimulating, fostering and improving the agriculture of this section of the State, to the end that both private and public wealth may be advanced. And it seems to me that any one who has carefully noted the changes that have taken place during the last twenty years in our farms, our farm-houses, barns and their surroundings, in the pecuniary condition of our farmers, in their general intelligence, in their knowledge of, and success in their business, must be satisfied that in a good degree these results have been attained; yet the question is being continually asked—"Does farming pay?" Within the last six months it has been often discussed in agricultural journals, and has been answered in the negative and affirmative in about equal proportions. And the debate is yet going on, as if it was a new question, and the relations of agriculture to private prosperity and national wealth, and the value of labor and its results in this department, were little understood. Taking a broad view of this matter, the decided presumption is that farming pays. The sum of the nation's present wealth and its annual increase is solely the product of its producing industries. Those which create valuable new material, or which put that material into form and place needed to supply human want. Simple exchange, even if dignified by the name of commerce, adds not a farthing to the accumulations of the producers; and there are many callings, pursuits and professions, acknowledged to be laudable and honorable, which contribute nothing to the general store,

except as they may incidentally aid to make the producing labor of others more efficient and powerful, and from this they must be supported.

Agriculture is acknowledged to be chief among our great producing industries. Labor in this department is fundamental, in that its products are a new creation of indispensable and valuable material, out of that which previously was valueless. Nor is this all. So indispensable are its products of raw material that farmers have absolute control of all other industries. So imperative are the wants for his food products, and so unchanged is this demand by trade fluctuations, by whim, caprice or fashion, that the last farthing, if not the very life of all other classes, are at his disposal. Therefore it is to be presumed that farming pays; and if it does not, it must be the fault of those who pursue it. If a pursuit which is fundamental to everything else, whose products under any circumstances cannot be dispensed with, does not give fair remuneration for the labor expended upon it, a great wrong exists somewhere, let that pursuit be what it may. As already stated, the great aggregate of the nation's wealth is but the result of private prosperity and gain. Therefore, a wise and parental government especially aids, encourages and protects those classes of its citizens whose labor as individuals tends primarily to this result. Our question should therefore be examined and answered from two standpoints: First, does farming pay the nation? Second, does farming pay the individual? For it is possible that, owing to adverse circumstances, or to some improper system in the distribution of the products of labor, the nation may be growing rich, while the great mass of laborers are growing poor, or do not obtain just compensation for their toil. And first, does farming pay as a national industry? I answer yes. No other industry creates *absolutely* so much useful material and wealth as farming. This is most conclusively proved by the statistics collected by the different departments of the National government in the census of 1870. The returns show that we have 406,735,041 acres of actual farm lands, improved and unimproved, exclusive of lands in cities and villages. Allow that this land was worth to the government one dollar and twenty-five cents per acre before its value was enhanced by agricultural labor, and the aggregate amount would be $509,668,801. Now their actual cash value, as returned by the assessors of that year (and it is a low estimate) was $9,262,803,861. In other words, farm labor

has added to the landed wealth of the nation $8,753,135,000. The same returns make the cash value of our farm fixtures and stock $1,862,154,886, swelling the grand total of agricultural contribution to the inconceivable sum of $10,615,289,646. This, it should be noticed, is its accumulations, and is distinct from its annual productions. This amazing sum is the permanent capital of the state, and its peculiar character is really of more importance to it than the amount. The other property of the nation in individual hands—money, bonds, notes, merchandise, real estate of towns and cities, is good of its kind in ordinary times, when everything moves smoothly, and is available for government use, but in great emergencies—in times of national convulsions and war—when the vital strength and enduring power of the state is brought to the test, this class of property disappears, or is unsuited to the occasion; but the value of the farming lands and their power of production become the real estate security which sustains the nation's credit at home and abroad, and enables it to recover from the greatest disasters. France, at the present time, is a good example of this. Crushed, subdued and devastated by the great military power and armies of Prussia, laid under enormous contributions to pay the war expenses of both countries, we are astonished at her unimpaired credit, and the rapidity with which she is repairing her manifold injuries. This is not the influence of the capital or products of her commerce or manufactures, but the result of long years of wisely-directed effort in creating a nation of skillful farmers, and raising her farming lands to the highest point of value and power of production. The aid which farming gives to the nation's regular prosperity, to its annual products, is no less marked than its influence on its permanent capital. In fact, the former, to a great extent, is the result of the latter. Referring again to the last census, I find the appraised value of all kinds of farm products of 1870, while in the hands of farmers, and before any value was added by transportation or dealers' profits, was $2,515,593,076. This is the result of a single year's work on our farms, and so quietly was it done, so silently did the ingathering go forward at ten thousand different points, that this enormous value was stored almost without the notice of the bustling, clamorous world of trade and manufactures. That very year they besieged the government for special privileges and direct aid by the adjustment of the tariff, the opening of new lines of communication and new marts of traffic, though the value

of their products, as the result of labor bestowed on raw material, if we include all the leading manufactures, cotton, woolen, boots and shoes, and all iron products, was small compared with the products of farms ; and the government itself hardly recognized what was going on until the great result was spread before it. I have not been able to obtain the official report of our manufacturing industries of that year, but they will probably show about the same proportion as at the previous census, when the value of our farm products was more than the greatest of them, and about equal to them all.

But again, farming pays the nation by its contribution to our foreign exchanges. Every nation should strive to supply all the wants of its people just so far as its soil, climate, natural advantages and mechanical skill will allow, but should always produce that which under all circumstances it can do most advantageously. But in any event, it should sell more than it buys, or it will end in bankruptcy. The wants of a community of savages are few and easily supplied ; but as they ascend in the scale of intelligence and civilization, their wants rapidly increase, requiring a large field, a varied climate, and educated skill, to procure the means of their gratification. The people of the United States stand on the highest plane of civilization, and have a legion of wants, real and imaginary, which are fostered by our national ambition and extravagance to such an extent that we have become—according to our wealth and population—the largest purchasers of foreign products and commodities of any nation on the earth. We send our commercial marine to every nook and corner of the world, explore all lands, and make ourselves acquainted with the peculiar productions and manufactures of all people ; and, unlike Old England, not so much for the purpose of selling our own surplus, as to buy of theirs. We import choice fruits from the tropics, sugar from the West Indies, tea, toys and "jimcracks" from China, silks from France and Japan, hides from South America, iron from England, Norway and Russia ; and in fact a thousand other articles which we can and should produce if we use them. To such an extent has this mania to covet, buy and consume foreign articles been carried, that in a majority of years the balance of trade has been against us ; and but for our production of gold and silver, we should have been compelled, for aught I know, to go into an assignment, and have our national estate settled in a bankrupt court. Bad as the case now is, it would

be immeasurably worse but for our farm products. In this emergency, it is not the manufacturer, the miner or the fisherman, but the farmer who supplies the exportable commodities to liquidate the foreign claim. For eight months ending the first of March, 1872, we imported commodities of foreign production to the value of $391,670,674, and if the trade continues at that rate for the remainder of the year it will amount to $587,506,011. For eight months ending at the same time, we exported domestic products to the value of $352,123,115. If the exportation continued in the same proportion to the end of the fiscal year, it would aggregate $529,184,672. An enormous sum, but we should still have a foreign indebtedness of $59,321,339. But let us analyze this domestic exportation, which paid $528,184,672 of our debt, and see who contributed it,—by whose labor it was produced. The custom house returns for the period named, show that our mining and fishing interests, our manufactures of cottons, woolens, boots and shoes, of iron and steel of every description, clothing, of silver and gold, gold and silver coin,—manufacturers of every kind and grade in the country, all combined,—furnished for exportation with which to pay the foreign debt, products to the value of $134,625,087. And the farmers furnished corn, wheat, flour, cotton, beef, pork, lard, live stock, fruits, butter, cheese, and other products of the soil, to the aggregate value of $393,559,585. Thus it appears that so far as our trade, exchanges and indebtedness to foreign nations are concerned, so far as our ability to pay, our solvency and credit are concerned, the farmers contribute more to discharge the one and uphold the other, than all other classes and industries. I come now to my last argument proving that farming pays the nation. And that is, its influence in fixing the national type of character, the Americanized sentiment of our population.

As might be expected from the sum of the products, nearly one-half of our population are engaged, either directly or indirectly, in some branch of agriculture, and much more than half of our producing laborers, are at work upon the soil. By the returns, it appears that on the first of June, 1870, there were in the United States, 9,486,307 persons actively engaged in gainful pursuits. Of these, 2,407,421 were engaged in manufacturing, mechanical and mining pursuits ; 5,928,868 were engaged in agriculture, and the remaining 850,018 were engaged in transportation, the different professions and minor industries. Thus it appears that so far as our population

and industries are coucerned, we are really a nation of farmers. This is the paramount and controlling interest, and in all its needs, simple justice as well as public welfare, demand that it shall receive the constant care of the State. The vital and enduring power of a nation depends very largely on the homogeneous character of its people and their attachment to their father land. But we are, as it were, a nation of emigrants gathered from all the countries of the world. Of different and often opposing religions, reared under different forms of government, and retaining to a great extent national prejudices. These are elements of weakness and history would teach us that when the time of trial came the ties which bind these individuals together as a nation would be but ropes of sand, and we should fall to pieces. The fact however has proved far otherwise ; once, again and again, we have passed through the most terrible ordeal, and found that notwithstanding the incongruous character of our people, we possess as much inherent strength as the most favored nations. How is the anomaly in the world's history to be accounted for ? mainly by this simple fact : that when the German, the Frenchman, the Irishman, the Italian or the Englishman emigrate to us they are transformed from tenants or serfs into land owners. Of a sudden they find to their astonishment that they have become an inherent part of the nation, that they *possess* the soil which is their home and which cannot be alienated or taken away but by their own act ; that, as never before, they are men with hopes, rights and interests to labor and to strike for, that instead of being simple spectators of government affairs, they are themselves a part of the government. And they rally round the national banner, as the emblem of the power that has conferred and protects them in their new rights and privileges, with a love and enthusiasm as ardent but more vital and enduring than their love and attachment to the land of their birth.

Whether they were conscious of it or not, the men who originated and passed the Homestead Act, acted the part of philosophic statesmen. Land to the landless, free homes to those who settle upon and till the soil, whether in the original form of nominal purchase, or the present form of absolute freedom, is the grand stroke of American policy which obliterates the diverse national prejudices of our immigrants, and binds them together as a homogenous and indissoluble nation. But the influence of farming on our people does not end here. We have some national characteristics that are not

desirable, and if they were not checked or toned down, would result in great evil. We are extravagant and wasteful ; we are continually apeing foreign ideas, customs, habits and fashions ; we are prone to go wild in our business enterprises and speculations ; we have a mania to get rapidly rich, and are not over-scrupulous as to the means employed. We are excitable, running up to fever and boiling heat over the current events of the day, politics or religion, and ready to shout for the last ism that has been concocted. These traits of national character have their principal development in our cities and large towns, where the population is dense and engaged in commercial and manufacturing pursuits, but rarely, or to a very limited extent, among our rural population. In this respect the farming community is the hope of the nation, as the conservator of our public morals, the controller and moderator of these extravagances, the sheet anchor which holds the ship to her moorings, how hard soever or from what quarter the tempest blows, the ballast and rudder which keep her in position and send her surely and steadily on her course. These are some of the ways and the extent to which farming pays the nation ; and I may add, as including all, that if national life is desirable it pays, for though you might blot out either of our other great industries without fatal results, yet if agriculture were extinguished the nation itself would die.

We pass now to our second consideration : Does farming pay those who are engaged in the occupation ? And here I admit, at the outset, that there are some men farming does not pay. Neither would any other occupation, pursuit, or profession. Some men are so constituted that everything they touch turns to poverty and leanness. They might dig in the richest placers of California or Nevada, or the most marvellous diamond deposit of Golconda, and yet they would be poor. Then there are others who set such a priceless value on all their efforts, both mental and physical, that hardly any compensation reaches their standard of deserved return. Others look at this matter from an artificial or fictitious stand-point, and of course come to very erroneous conclusions. They notice that some individuals become suddenly wealthy in other business, or without business, and jump to the conclusion, without analyzing the case, that that is the thing which pays, while their own business does not. Some have an insatiable longing for wealth, but are utterly averse to the labor, care, responsibility and frugality absolutely necessary to acquire it honestly. They are after some busi-

ness that *pays*, and are not over-anxious to know that its prosecution is advantageous to the community. Now the honest truth is, that none of these classes will find farming a *paying* business, unless their views are materially modified, and they had better not engage in it. The latter class, not being able to appreciate the fact that no business *pays* except that in which honest labor creates a value, might as well make a clean breast of it, and plunge into some wild scheme of speculation, where, having nothing to risk and nothing to lose, there may be one chance in ten thousand to win ; or better yet, engage in manufacturing money on their own account. or by a single night's stealthy toil, get possession of some great deposit of bank notes and government bonds, which would decide the question of what pays. On the other hand, there are men of whose schemes, plans and forecast we can know but little, but of whom it appears that everything they touch, and much which they do not touch, was turned into gold in their coffers. They seem to have a magnetic power, which causes wealth to flow to them without act or volition on their part. Farming pays such men. In relation to secular affairs, no more erroneous or hurtful idea was ever entertained than that *any* business, in and of itself, ever did or ever can pay. The fact is, everything depends upon the man. In ordinary cases he controls the situation, and is a more important element in producing results than the mere pursuit. For an exact understanding of this subject, therefore, we should, just as far as possible, discard these extreme cases on either side, and ascertain, if we can, if the soil does not return a paying value and support for average labor and intelligence expended in its cultivation. If we knew nothing of the minute details of the matter it would be fair to presume that it did, for two reasons : First, because that from the very nature and constitution of our being, the tilling of the ground is, and must forever be, the occupation of much the largest portion of our race. This was planned by the Great Designer, and it cannot be that it was intended in any sense to be unrequited toil ; but on the other hand, that it should, all things considered, abundantly reward all the labor required. And second, because in agriculture, the workman, if he knows his business, need perform but half the labor. He is simply a co-worker, a helper. If he but plan aright, Nature's powers and forces enter the field and delve early and late. Tirelessly, they work on, whether he sleeps or wakes, and the grand results of this gratuitous labor are all his own.

Now let us examine the facts, and see if they do not fully sustain the presumption ; and take the whole United States, a field broad enough to include good and poor farming, the wise and the foolish, the thrifty and the thriftless, the sections of good markets and crops, and poor markets and crops ; those who farm with the best advantages, and those with none, and see if under these unfavorable circumstances farming does not pay for the cost of carrying it on, and a rich per cent for all the capital invested. To ascertain this with any degree of exactness, we must know the sum invested in all the farming lands of the Union, (in other words we must know their present worth) including unimproved land and farm buildings. We must know the amount of capital invested in all farm implements, vehicles and machinery. We must know the actual value of products on the farm before a new value is added by transportation. And we must know the entire cost of producing the crops. The cost taken from the income, and the remainder divided by the capital, will give us the per cent. of interest on the capital invested. I make the statement so that the process by which I obtain my somewhat remarkable result may be perfectly understood. Now the entire capital invested in farm lands and farm buildings, of every description, in farm stock of all kinds, in farm implements, vehicles and machinery, is $10,615,289,946. The gross annual income from this capital is $5,515,593,077. The total cost of all labor and board is $413,711,713. Labor and board is actually more than half the cost of growing of crops, but we will call it half, which would make the total cost of producing this income $827,423,446. The cost taken from the gross income leaves us $1,688,169,620 as the net profit of our agriculture, and this divided by the sum of the capital, gives us fifteen and three-fourths per cent. on our whole investment. But some one who has not seen this fifteen per cent. may object ; if so, I reply, it must be, because capital is but the surplus earnings of labor. Eventually farm capital is the surplus of farm labor, and if it did not more than support itself it could not have accumulated the inconceivable sum of nearly eleven billions of dollars. But the objector will answer, "many of our farms are mortgaged." But most of them are not, and here is my strong argument. We all know that these are the kind of mortgages that are rarely foreclosed. They have been bought by young men with little capital, and the farm held for security. But these men will, out of the profits of the farms,

pay their interest money, pay their taxes, defray their heavy expenses of rearing and educating their families, and the demands of society, and liquidate their debt and own their land in full, as thousands of such have already done, and present indisputable proof that farming pays. Back again, however, comes the objector, and says: "How about that fifteen per cent.; I don't find it?" Well, very likely you don't, but you ought to, and to be able to put your hand upon and show it. You may depend upon it, my friend, that fifteen per cent. "is laying around loose," somewhere, and you had better ransack the nooks, crannies and by-ways of your business until you bring it out to the light. There is a range in the per cent. which farm lands will pay in different hands, management, and under varying circumstances. I know of lands in this valley which are paying all the expense of their cultivation and a hundred per cent. on the capital; and there are some which are *held*, but not *farmed*, and are so treated that Nature herself is foiled in her attempts to produce crops which do not pay anything. In the latter case it is neither the fault of the land nor the business, but entirely that of the owner, for there is but little land east of the Alleghanies but what if left entirely to itself, without thought, care, or oversight of the owner, would yield him six per cent. and taxes by the growth of wood. These considerations lead to the settled conviction that farming pays the individual in dollars and cents for all the intelligence and labor he gives it. Statistics (which I will not take your time to quote) prove, conclusively, that of every hundred persons who engage in trade, more than ninety fail. But of persons who engage in farming, and do not meddle with outside business, not one in a hundred is ever bankrupt; and that a hundred young men, taking farming as their business, will aggregate more wealth than a hundred in any other business. With the former the aggregate will be pretty evenly divided, each will have a competence, but with the latter the aggregate of wealth will be divided among a very few, and a great majority will obtain but a bare livelihood.

But dollars and cents, however desirable and useful, are not the whole of life. There are some things desirable and useful, and which money cannot purchase, which are inherent in the farmer's occupation, and a part of his reward, which should be taken into the account. From his position, and the nature of his occupation, he is exempt from the whirl of excitement and corroding cares of

the monied and commercial world. He is measurably free from their fluctuations, panics and disasters. The blessed comforts of stability and security are his when revulsions come upon most pursuits, and stock and mercantile fortunes disappear as the dew. Of the whim, caprice and fashion which often thwart the best laid plans of the manufacturer and mechanic, he is a stranger, and if general disaster come upon the business world, the sustenance and comfort of his family are provided by his own products, and he may rejoice in his independence and comparative freedom from the ruin. The nature of his calling removes him to a great extent from the intrigue, fineness and double-dealing of the most depraved of mankind. He is a co-worker with kindly, genial Nature, whose laws, principles and mode of action he may study and understand, receiving abundant compensation from their elevating and expanding influence. The prevailing impression that farming does not pay, is not obtained because of the actual fact ; but because, as a general rule, farmers keep no accounts which show whether their business is conducted at a loss or profit. They cannot tell, at the year's end, whether they are worth more or less than they were at the beginning. And whatever may be the result, they know not whether it is due to their farming, or to matters which are, and should be kept entirely independent from the farm. I therefore close this subject with some suggestion respecting farm accounts, which, if complied with, will tend to show to each individual farmer the result of each year's operations, and whether it pays him for his labor and capital. The *business* of farming and farm accounts have nothing singular or intricate about them, but should be conducted and kept in the same manner and on the same principles as that of the merchant or manufacturer. The farmer should, every Spring, take a perfect inventory and appraisal of everything connected with his business, that he may know how much capital he has invested. This inventory should include all his farm lands, improved and unimproved. All his *barn* buildings, but not the house. All the live stock growing, or working exclusively on the farm, but not such as is kept partially or exclusively for the pleasure, comfort, or convenience of the farmer's family. It should include all the tools, implements, machines and vehicles kept for farm use, but not those vehicles kept for the pleasure or convenience of the family. In carrying on the year's operations, the farmer should charge to the farm all the manures and all the seed of every kind and description which he uses

upon it; all the cost of labor hired, the value of his own labor and superintendence, and that of his family when actually employed on the farm or about its business; and this should include board, whether paid for or received in the family. He should charge to the farm the cost of necessary repairs to all implements, vehicles and buildings that are used exclusively for farm purposes, and all expenditures for labor or material in making farm improvements. On the other hand, the farm should be credited for everything it produces at its sale value, whether it be sold, or consumed by the farmer's family; for the support of all animals kept for family use, and for all timber and fuel sold or used. The account thus kept, and the inventory and appraisal made the following Spring, which must include the value of all crops and manures on hand, the value of all farm improvements, and wood grown, will show the result as a business operation, and the sum and per cent. of gain or loss. It will be noticed that this inventory and account makes a clear and distinct separation of the individual's business from the support and maintenance of his family and his outside expenditures. It is the only correct method, and is precisely like that of an intelligent business man engaged in mercantile pursuits. The point is not how much money does the farmer have left after he has expended all he wishes on the pleasure whim, fashionable desires or necessities of himself, his family or friends, but does the business pay for the labor expended and capital invested, and that, such an account will show. And it will show a great deal more; for as it takes cognizance of daily operations, it will exhibit the elements of success and failure, bring prominently to view the leaks and wastes of the business, change that which before was a simple surmise—a guess—into a certainty, and enable the farmer to intelligently change and direct his business movements, when necessary, so that loss may be averted, and larger remuneration may be received for his labor, and a higher per cent. for the capital employed.

REPORT ON FLOWERS.

BY T. G. HUNTINGTON.

It was a pleasant duty, that to which you assigned us, of looking over and passing judgment upon the floral exhibition at your late festival.

The pleasure of examination was unalloyed, for the collections were large in numbers and variety, and were tastefully arranged. The exhibition of varieties of verbenas, flox, pansies and gladioli, was unexpectedly full and fine. We are as tenacious perhaps, of our right to pass judgment upon a display of this kind, as we are pleased with its beauty, but when it comes to publishing that judgment, there is a mixture of alloy with the pleasure, and a lurking wish that it might remain "private," as this is one which no one can impeach. It is a matter of regret, but unfortunately florists, like musicians, are sometimes fierce in their rivalries, and he who sits as umpire in their contests for superiority, will be in great danger, as a reward for his labor of love, of turning himself into a "*Love Lies Bleeding.*" It must be regarded, we think, as one of the proofs of human depravity, that flowers should be made to minister to so deplorable a catastrophe. We lovers of these most lovely things, should take a lesson from the little preachers themselves, who stand side by side, holding their cups of blessing to all who will enjoy them, and shaking their incense on the sin, without a shade of jealousy to mar their beauty or embitter their fragrance. With this bad element eliminated, the love of flowers is perhaps the purest earthly passion of which the mind is capable, and on this account it is pleasant to know that their cultivation is on the increase. This is the case not only in the larger towns, where evidences of growing trade in this and other directions are to be expected, but in scattered villages and even in more secluded places, where the tide of fashion never flows, not infrequently one sometimes meets with exhibitions of floral beauty as enchanting as they are surprising, and leaving no room to doubt that, however overlaid with grosser coverings,

the sentiment is universal. Your society, then, is doing a good work, by exciting an interest in this direction. In this work-day world, we must have our ideals. We cannot always plod and dig, and wash and bake and sweep. But for some, the types of the fairest and best, are not always at hand. The man, indeed, whose work lies in the open fields, may, however closely occupied, catch an inspiration from the varied landscape, from the heavens above him, from the song of birds, or from the many forms of vegetable life that meet his eye on every hand. The young girl may think she finds them in the shallow sentimental literature of the day. But how is it with her whose houshold duties shut her away from converse with nature in a great measure, and allow her no time even to refresh her mind with the inspirations of genius? There remain, it is true, the consolations of religion, to relieve the severity of her lot, but even here the heart often follows the eye seeking the aid of congenial surroundings in which to breathe its highest aspirations. Give her flowers then, say we. They are one of the simplest as well as one of the most effective means of giving variety to the monotony of her life. A glance at their beauty, a breath of their fragrance will often charm away the shadows and let sunshine into the heart. Sometimes they do more than this. They develope if they do not inspire the religious sentiment. We remember having seen this idea finely drawn out many years ago in a work of fiction entitled "Piccioli." A convict who was a skeptic also, was startled one day to see a plant pushing its way up into the dim light of the prison between the stones that paved his cell. Having but little else to occupy his attention, he watched the little messenger from day to day, noting its every change. Soon it won his affection; then the plant became a preacher and he a learner, and so persuasive were its appeals to his better nature, that before its life-work was done and flower and seed were perfected, the unbelieving heart too had opened into the beauty and sweetness of a christian's faith. Then we all know the aptness and force with which they are used to illustrate moral and religious truth. To such an extent has this been practiced that there are certain flowering plants which have become synonomous with certain virtues or qualities of mind. The violet is almost another name for modesty, and the lily everywhere stands for purity. Some loving enthusiasts have even gone so far as to give a language to flowers, assigning to different ones all the passions and emotions with every shade, so that he who becomes

versed in this flower lore, has but to select his specimens when he wishes to write a letter, ties up his highly-colored "figures of speech", to be deciphered by his favored correspondents. We elderly people do not affect this style of literature much. With young lovers it is more common, and we venture the remark that no red letter day of old can compare in good fortune with that which brings to the anxious swain the delicate but expressive token that his suit is accepted.

We began our plea for the cultivation of flowers by claiming that they belong pre-eminently to women ; but not for a moment would we concede that they are her exclusive right. There are those who are too ready to admit it. Indeed, the idea seems to prevail pretty extensively that to see a *man* giving any marked attention to such ephemeral and useless productions shows weakness and effeminacy. People of this sort will tell you they think very little of "posies", as they call them, while the very term they use, and the shallow contempt they show, are enough to convince any intelligent person that they stand sorely in need of just such an influence as these most beautiful of the earth's productions could give. Surely, if woman needs them for inspiration, man needs them no less for refinement. If these things are so, the florist's occupation is not so trivial as at first thought it may seem. The agencies he creates are pure and elevating. If he is true to his profession, and has the time and means, he is not content to copy the productions of others, but becomes an artist, trying his skill at fancy pieces ; pushing his designs, it would seem, up into the very possibilities of Nature, and with what success may be seen almost any gala day in the marvels of floral beauty that by turns challenge our admiration, or tempt our avarice. One needs only to compare the common wild rose, beautiful as it is, with the finer cultivated varieties, to be convinced that it has been under the tutelage of refined and appreciative minds. He who can take the tri-colored violet and transform it into the modern pansy, not contenting himself with giving it (like its original) a uniform pattern, but compelling it to sport into numberless varieties, each vieing with the others in its peculiar styles of beauty. He who can do this must have in him something of the creative power of genius. He may not be able to originate species, but he works in a department of nature very near to that where all forms and materials lie plastic under the Divine hand. Appealing thus as they do to the higher sentiments, we might reasonably ex-

pect, what is indeed every day becoming more evident, that the presence of flowers, like the ministry of our Lord, Himself the "consummate flower of humanity," are suited to every occasion. Like Him, but in a more humble way, they find a welcome almost everywhere, and leave a blessing behind. Like Him, they are equally at home in festive halls or public assemblies. They cheer the sick room. They grace the wedding hour. They droop over the lifeless forms of our departed. They find a welcome in the churches, and our prayers and thanksgivings rise none the less readily for being borne aloft by the incense they continually offer it

Mrs. Hemans has finely described this ministry of flowers in the well-known lines entitled "Bring Flowers." And it is worthy of note in this connection, though it may not be quite germain to the subject, that as she kindles with her theme she almost speaks in prophecy. Witness the two last stanzas :

> Bring flowers, pale flowers, o'er the bier to shed
> A crown for the brow of the early dead.
> For this, through its leaves, hath the white rose burst;
> For this, in the wood, was the violets nursed.
> Though they smile in vain for what once was ours,
> They are love's last gift,—bring flowers, bring flowers.
> Bring flowers to the shrine when we kneel in prayer,—
> They are Nature's offering,—their place is there.
> They speak of hope to the fainting heart,
> With a voice of promise they come and part.
> They sleep in the dust through the wintry hours,—
> They break forth in glory,—bring flowers, bring flowers.

What can be more expressive or true to nature, and yet when these lines were written, flowers, among us, at least, were an unheard-of thing at funerals, and many good people doubted whether it was not something akin to sacrilege to permit a vase of them to be brought within church walls of a Sunday. Now, how often are they sought for as love's last offering to the dead, and her first in honor of Him and His day, who "brought immortality to light." But we linger too long over our theme. It has been lovingly, and in the hope to say some word that may kindle in other hearts the admiration we feel for the world of flowers. Let a few words in regard to the exhibition under review, put an end to our loquaciousness.

A very considerable part of this was made up of plants sent in

by the Agricultural College. They made a fine show, adding much to the attractiveness of this department. There were but few flowers in this collection, and those we saw were hardly so tastefully arranged as we should expect, coming from the quarter they did. We make exception in favor of one or two plates of pansies, set in Lycopadium. They were quite charming. The three collections of flowers showed an amount of painstaking and skill worthy of all praise. Mrs. Grey's hanging basket was made up with a great deal of taste. For harmony of design, and a generally pleasing effect, we do not remember to have seen its equal. Mrs. Boutwell's collection, though not so elaborately arranged as the others, showed her usual success in flower-raising. Her exhibition of everlastings was particularly large and fine. Passing on to collections of varieties of the same plant, we notice that of verbenas, presented by Mr. Howard, of Belchertown. It contained eighty-five named varieties, many of them choice specimens, and all worthy of cultivation. For bedding purposes, we have been accustomed to regard the verbena as without a rival; but we have now, in the different varieties of Drummond Flox, a candidate for public favor which threatens to take somewhat from the prestige of this long-established favorite. There were on exhibition twenty varieties of these bright-eyed annuals, presented by Mr. L. W. Goodell, of Belchertown. With these two classes of plants alone, with all their changing hues, no garden need be dull from June to October. We must not pass by a rich collection of twenty varieties of pansies, also presented by Mr. Goodell, nor a well-arranged and choice collection of Gladioli by Mrs. Grey. These latter have so successfully pushed themselves into public favor that no dissent of ours will avail anything to check an over-estimate of their merits. No one can deny that they have color, and succeed well in showing it. In grace and modesty they are sadly lacking. But as it takes all sorts of people to make a world, and all sorts of flowers to make a garden, so let them have a place, and no mean one, in every florist's collection.

In behalf of the Committee.

T. G. Huntington.

LIST OF PREMIUMS

AWARDED AT THE TWENTY-THIRD ANNUAL EXHIBITION OF THE HAMPSHIRE AGRICULTURAL SOCIETY.

Class 1—Town Teams.

Pelham,	12
Amherst,	10
Hadley,	8

First premium to Hadley, $10.

Class 2—Oxen.

J. O. Ashcroft, Hadley,	$6 00
L. N. Granger, Hadley,	4 00
Phineas Bridgman, Belchertown,	3 00
Stetson Hawley, Amherst,	2 00

Class 3—Trained Oxen.

L. N. Granger, Hadley,	6 00
L. H. Newell, Pelham,	4 00
Eli Hawley, Hadley,	3 00
A. A. Rankin, Pelham,	2 00

Trained Steers.

Orin Williams, Amherst,	4 00
Phineas Bridgman, Belchertown,	3 00
Isaac King, Amherst,	2 00

Class 4—3 Year Old Steers.

W. B. Kimball, Enfield,	4 00
S. E. Chamberlin,	3 00
P. Bridgman, Belchertown,	2 00

2 Year Old Steers.

P. Bridgman, Belchertown,	4 00

Class 5—Milch Cows.

Shorthorn.

A. T. Judd, South Hadley,	5 00
S. A. Bates, "	3 00
M. A. College,	2 00

Ayrshire.

H. E. Stockbridge, Amherst,	5 00
Massachusetts Agricultural College,	3 00
" " "	2 00

Jersey.

M. A. C.,	5 00

Grade.

A. T. Judd, South Hadley,	5 00
" "	3 00
" "	2 00

Class 6—Herds of Cows.

A. T. Judd, South Hadley.	5 00
Jonathan Cowles, Amherst,	3 00

Class 7—Heifers.

C. S. Smith, Amherst,	5 00
S. A. Bates, South Hadley,	3 00
J. C. Reed, Amherst,	2 00

Class 8—Bulls.

Shorthorn.

A. T. Judd, South Hadley,	7 00
M. A. C.,	5 00

Ayrshire.

M. A. C.,	7 00

Devon.

M. A. C.,	7 00

Jersey.

M. A. C.,	7 00

Class 9—Calves.

M. A. C., thoroughbred bull calf,	3 00
" " "	2 00
" " "	1 00
S. A. Bates, South Hadley, heifer calf,	3 00
A. T. Judd, " "	2 00
S. A. Bates, " "	1 00

Class 10—Herds of Cattle.

A. T. Judd, South Hadley,	6 00
Jonathan Cowles, Amherst,	4 00

Class 11—Swine.

M. A. C., Chester boar,	5 00
M. A. C., Berkshire,	5 00
M. A. C., 6 weaned pigs,	5 00
F. W. Field, Leverett, sow with pigs,	6 00
Estate of H. Cobb, Amherst,	3 00

Class 12—Sheep.

John A. Morton, Hadley, Southdown buck,	4 00
James Comins, "	3 00
John A. Morton, " Southdown lambs,	3 00
James Comins, " ewes,	5 00

Class 13—Poultry.

Samuel Hastings, Amherst, trio of fowls,	5 00
H. E. Stockbridge, " "	4 00
James Comins, Hadley, "	3 00
Estate of H. Cobb, Amherst, "	2 00
L. W. Allen, " "	1 00
M. A. C., turkies,	3 00
John Shaw, Pelham, turkies,	2 00
S. Jewett, " "	1 00
M. A. C., pigeons,	2 00
Myrick Gallond, pigeons,	1 00

Class 14—Mechanic Arts.

Providence Tool Company, Providence, R. I., wringer,	Diploma.
Florence Sewing Machine Co., Northampton, sewing machines,	$5 and Diploma.

W. G. Andrews, Ware, Wood's mower,	Diploma.
W. H. Saxton, Amherst, silver ware,	3 00
J. W. Goodell, Amherst, bench planes,	1 00
L. W. Allen, wire goods,	2 00
Hunt & Co., Sprague mower,	2 00
George L. Bachelder, Sunderland, weeder,	25
J. F. Brooks, Stafford Springs, Ct., road scraper,	$2 and Diploma.
H. S. Porter, Hatfield, "Meadow King mower,"	3 00
J. Adams & Sons, Hadley, carts and carriages,	5 00
C. O. Parmenter, Amherst, sewing machines,	$5 and Diploma.
E. H. Chapin, Hadley, mower and reaper,	Diploma.
" " mower,	3 00
R. Turner, Leverett, butter mould,	25
" " washing machine,	75
Hunt & Co., Amherst, Blanchard churn,	50
John E. Waite, Hatfield, scraper,	1 00
Star Printing Co., Northampton,	$3 and Diploma.

Class 15—Domestic Manufactures.

T. W. Sloan, Amherst, boots and shoes,	2 50
Mary E. Harris, Northampton, afghan,	2 00
Young Brothers, Amherst, willow ware,	2 00
Upton, Shaw & Co., Brighton, phosphates, super-phosphates, and tobacco fertilizers,	3 00
Mrs. H. S. Leach, Amherst, rag carpet,	1 25
Dwight Kellogg, Amherst, boots and shoes,	1 50
A. W. Wiley, Amherst, bed quilt,	75
Mrs. Guldan, Amherst, rug,	50
" " bed spread,	75
Mrs. H. C. Comins, Hadley, socks,	50
" " " floor rugs,	75
Mrs. Moses White, Belchertown, bed spread,	1 00
Mrs. Crossman, Amherst, bed spread,	75
Mrs. L. Thayer, Leverett, floor mat,	50
Eliza Hubbard, Sunderland, carpet,	1 50
Mrs. J. Dickinson, Amherst, wool hose,	50
G. D. Fish, Sunderland, rag carpet,	1 00
Mrs. J. Adams, Hadley, bed spread,	1 00
Mrs. S. W. Boutwell, Leverett, rug,	75
M. N. Spear, Amherst, wall papers and borders,	1 00

Mrs. E. Hubbard, Sunderland, wool hose,	50
Amelia B. Hannum, Sunderland, socks,	1 00

Class 16—Fancy Articles.

Emeline Darling, Amherst, thread collars,	1 50
Mrs. E. J. Wheaton, flannel skirt,	75
" " embroidery work,	75
Myra A. Smith, Hadley, landscape,	1 00
" " wax fruit,	1 50
Julia M. Lee, Amherst, worsted flowers,	1 00
" " tidies,	1 00
" " toilet sett,	50
Mrs. L. H. Pomeroy, Amherst, wreath,	1 50
Eugene Dickinson, Hadley, flannel,	25
Mrs. D. Baker, Hadley, wax cross,	1 50
Lucie M. Kellogg, Amherst, tidy,	50
" " chair cover,	75
Vienna Rankin, Pelham, tidy,	50
" " lamp mats,	25
" " artificial flowers,	1 00
Mrs. G. D. Fish, Sunderland, toilet sett,	75
Mrs. Eliza Hubbard, Sunderland, cricket cover,	25
" " " ottoman,	50
Miss Ellen Hubbard, " tidy,	30
Mary E. Warner, " cushions,	50
M. N. Spear, Amherst, fancy goods,	2 00
Miss Ellen Hubbard, Sunderland, tidy,	25

Class 17—Bread.

Mrs. E. Hubbard, Sunderland, wheat bread,	2 00
Mrs. S. W. Boutwell, Leverett, "	1 00
" " " rye and Indian,	2 00
Mrs. C. H. Kellogg, Amherst, "	1 00

Class 18—Butter and Cheese.

E. J. Wheaton, Amherst, factory cheese,	5 00
F. B. Paige, " "	3 00
Mrs. Isaac King, " home-made cheese,	2 00
Mrs. J. Dickinson, " butter,	3 00
Mrs. E. D. Hubbard, "	1 00

Class 19—Honey, Wines, &c.

Mrs. J. Dickinson, Amherst, wines,		1 00
" " " jellies,		1 00
Mrs. C. H. Kellogg, " "		75
" " " canned fruit,		2 50
Mrs. H. C. Comins, Hadley, "		2 00
Mrs. C. H. Kellogg, Amherst, pickles,		1 50
Mrs. Joseph Dickinson, " "		50

Class 20—Fruit.

F. B. Paige, Amherst, miscellaneous fruit,		4 00
A. B. Howard, Belchertown, " "		3 00
E. H. Judd, South Hadley, " "		2 00
W. H. Hobbie, Amherst, " "		1 00
F. B. Paige, Amherst, colllection of apples,		4 00
E. H. Judd, South Hadley, " "		3 00
Joseph Dickinson, Amherst, " "		2 00
H. C. Comins, Hadley, " "		1 00
E. H. Judd, South Hadley, collection of pears,		4 00
A. B. Howard, Belchertown, " "		3 00
T. G. Huntington, Hadley, " "		2 00
F. B. Paige, Amherst, " "		1 00
" " collection of grapes,		4 00
E. H. Judd, South Hadley, " "		3 00
T. G. Huntington, Hadley, " "		2 00
W. H. Hobbie, Amherst, " "		1 00
F. B. Paige, Amherst, assorted fruit,		3 00
Willie H. Comins, Hadley, " "		2 00
H. D. Graves, Sunderland, " "		1 00
F. B. Paige, Amherst, peaches,		3 00
L. V. B. Cook, Belchertown, "		2 00
A. A. Rankin, Pelham, cranberries,		2 00
P. E. Irish, Amherst, collection of fruit,	gratuity,	3 00
Henry Barstow, Easthampton, hot-house grapes,	"	2 00

Class 21—Vegetables, &c.

M. A. C., best variety of potatoes,	2 00
" best peck of potatoes,	2 00

" squashes,		2 00
" pumpkins,		2 00
James Comins, Hadley, pumpkins,		1 00
M. A. C., beets,		2 00
H. C. Winter, Shutesbury, beets,		1 00
" " oats,		2 00
James Comins, Hadley, "		1 00
" " spring wheat,		1 00
" " winter wheat,		2 00
C. S. Smith, Amherst, seed corn,		2 00
James Comins, "		1 00
" flat turnips,		1 00
T. G. Huntington, Hadley, parsnips,		1 00
" " carrots,		1 00
" " onions,		2 00
" " collection of vegetables,		2 00
" " sweet corn,		1 00
L. W. Goodell, Amherst, vegetable seeds,		2 00
Mrs. S. W. Boutwell, Leveret, flower seeds,		2 00
L. W. Goodell, Amherst, "		1 00
" " tomatoes,		2 00
C. S. Smith, " "		1 00
P. E. Irish, " barley,	gratuity,	2 00

Class 22—Flowers.

Mrs. J. P. Gray, Amherst, best collection,		5 00
Mrs. S. W. Boutwell, Leverett,		3 00
Mrs. E. J. Watson, Amherst,		2 00
Mrs. E. Sabin, "		1 00
Mrs. J. P. Gray, " gladioli,		3 00
Mrs. S. W. Boutwell, Leverett, everlastings,		2 00
" " " dahlias,		2 00
A. B. Howard, Belchertown, "		1 00
" " verbenas,		2 00
Mrs. S. W. Boutwell, Leverett, "		1 00
Mrs. J. P. Gray, Amherst, asters,		2 00
Mrs. S. W. Boutwell, Leverett, "		1 00
L. W. Goodell, Amherst, "	gratuity,	2 00
" " "	"	2 00

A. B. Howard, Belchertown,	"	"	50

Class 23—Town Teams of Horses.

No premium awarded by the Committee.

Class 24—Stallions.

A. W. Freeman, Prescott,		10 00

Class 25—Breeding Mares, &c.

Edmund Smith, Hadley,		6 00

Class 26—Colts.

S. S. Graves, Leverett,	3 year old colt,	4 00
Alden Graves, Sunderland,	" "	4 00
Edmund Hastings, Amherst,	2 year old colt,	4 00
Alden Graves, Sunderland,	" "	2 00

Class 27—Farm Horses.

M. A. C., Amherst,	pair,	6 00
J. Adams & Son, Hadley,	"	5 00
H. J. Day, Montague,	"	4 00
M. A. C.,	"	3 00
W. F. Hawley, Hadley,	single,	6 00
Joseph Ward, Pelham,	"	5 00

Class 28—Carriage Horses.

Samuel Boltwood, Amherst,	pair,	6 00
Truman Meekins, Hadley,	"	5 00
Munroe Keith, Granby,	"	4 00
A. Annable,	"	3 00
P. D. Hubbard, Sunderland,	single,	6 00
G. W. Hobart, Amherst,	"	4 00
C. W. Adams, Hadley,	"	4 00
C. W. Thurber, Leverett,	"	3 00

Class 29—Roadsters.

H. D. Eaton, Amherst,		10 00
Elisha Smith,	"	5 00
L. S. Dyer, Hatfield,		3 00

Class 30—Jacks and Mules.

W. B. Stetson, Leverett,	5 00

Premiums Awarded.

Amherst,	$276 50
Belchertown,	25 50
Brighton,	3 00
Easthampton,	2 00
Enfield,	7 00
Granby,	4 00
Hadley,	121 50
Hatfield,	7 00
Leverett,	34 25
Montague,	4 00
Northampton,	10 00
Pelham,	29 75
Prescott,	10 00
Shutesbury,	3 00
Stafford Springs, Conn.,	2 00
Sunderland,	21 80
South Hadley,	57 00
	$618 30

OFFICERS FOR 1872.

PRESIDENT.

W. S. CLARK, OF AMHERST.

VICE-PRESIDENT,

CHARLES S. SMITH, OF AMHERST.

SECRETARY AND TREASURER,

E. A. THOMAS, OF AMHERST.

EXECUTIVE COMMTTEE.

J. P. GRAY, OF AMHERST.
TIMOTHY PUTNAM, OF LEVERETT.
LEVI P. WARNER, OF SUNDERLAND.
H. C. COMINS, OF NORTH HADLEY.
W. B. KIMBALL, OF ENFIELD.

AUDITOR.

O. G. COUCH, OF AMHERST.

MEMBER OF STATE BOARD OF AGRICULTURE.

LEVI STOCKBRIDGE, OF AMHERST.

TREASURER'S REPORT.

E. A. THOMAS, Treasurer, in account with Hampshire Agricultural Society.

1872.			Dr.
To cash received of		Life Members,	$55 00
"	"	State Treasurer,	600 00
"	"	Savings Bank,	1,000 00
"	"	Amherst Bank,	200 00
"	"	for sale of "Transactions,"	52 50
"	"	for entrance fees and admission,	1,118 41
"	"	overpaid, and due Treasurer,	87 95
			$3,113 86

1872.			Cr.
By cash paid for printing,			362 30
"	"	interest on notes,	70 76
"	"	National Band,	263 05
"	"	Secretary and Treasurer,	100 00
"	"	on former account,	13 94
"	"	for premiums,	991 05
"	"	for labor, '71 and '72,	235 05
"	"	Savings Bank,	400 00
"	"	at First National Bank,	450 00
"	"	State scholarship,	52 00
"	"	incidental expenses, as per book,	175 71
			$3,113 86

I have examined the account of E. A. Thomas, Treasurer, and find it correct.

O. G. COUCH, Auditor.

TRANSACTIONS

OF THE

HAMPSHIRE

Agricultural Society

Of Amherst, Mass.

FOR THE YEAR 1873.

AMHERST:
HENRY M. McCLOUD, PRINTER AND BOOKBINDER.
1873.

OFFICERS FOR 1873.

PRESIDENT.

H. C. COMINS, OF NORTH HADLEY.

VICE-PRESIDENT,

A. T. JUDD, OF SOUTH HADLEY.

SECRETARY AND TREASURER.

J. L. SKINNER, OF AMHERST.

EXECUTIVE COMMITTEE,

E. F. COOK, OF AMHERST,
F. B. PAIGE, "
A. R. OWEN, OF BELCHERTOWN,
N. A. SMITH, OF SUNDERLAND,
CHAS. H. FIELD, OF LEVERETT.

AUDITOR.

O. G. COUCH, OF AMHERST.

MEMBER OF THE STATE BOARD OF AGRICULTURE.

LEVI STOCKBRIDGE, OF AMHERST.

SECRETARY'S REPORT.

When the present Board of officers entered upon their duties, such was the feeling among the members of the society,—such diversity of opinion in regard to the course to be pursued in the future ; some wishing to change the location of the annual exhibition, others opposing any change in location ; some advising the giving up of the charter and forming a new society with new membership, others wishing to sell the property, pay the debt, and give up the charter altogether,—that the success of the twenty-fourth annual exhibition was a matter of doubt. The exhibition was, however, a success, not only upon the grounds and in the hall, but financially, as will be seen by reference to the statements of the treasurer upon the last pages of this book. What has been done to bring about this result? We have contended, from the first, that no amount of good management on the part of the officers, could, of itself, insure a successful exhibition. Good management *must* be accompanied by the hearty co-operation of the members. This co-operation the officers have had the past year, to some extent. A *more* hearty co-operation, and from *all* the members, would insure greater success. From one year's experience, we are satisfied that many of the members take a deep interest in the welfare of the society, and some are willing to make personal sacrifices for the good of the whole, but there is room for improvement in this direction. The committee appointed by the Society, at its last annual meeting, of which Levi Stockbridge was chairman, have in their report, some very good suggestions upon this subject. We regret exceedingly, that the society did not order this report printed, and a copy placed in the hands of every member, instead of simply ordering it placed on file, where not a dozen members will ever see it. The report says, among other things : "As the stream can-

not rise higher than the fountain, as the character of the rivulet is determined by the spring from which it flows, so this society is what its members are, or what they make it. Is the society indifferent, useless, dead? So then is its membership. Is it strong, active, and exerting a beneficent influence? Then its members are the cause. * * * * * * * * If the members of this society will come to prize the general good of the whole, and the welfare of the society and community, as of more consequence than the mere money of premiums, if they will ignore purely personal considerations, if they will honestly and earnestly labor for union and harmony, interest themselves in the great objects for which we were organized, and cheerfully and promptly assist in carrying forward the measures the majority inaugurate, we may have one of the strongest, most prosperous and useful societies in the Commonwealth."

Although the society did not adopt this report, it has been the aim of the executive officers to carry out to some extent, some of the recommendations contained in it. They have labored to reduce the expenses in every direction, as low as possible consistent with the welfare of the society; to make the premium list equitable to all the various classes, without being either extravagant or niggardly; to make the special premiums attractive and at the same time keep within the means of the society.

In an exhibition of this kind, much depends upon the proper selection of examining committees, and upon the manner in which they perform the duties assigned them. Of the various committees appointed for the last exhibition we can say, first, that as a rule they were on the ground at the proper time for the performance of their duties. Of course there were a few exceptions to this, there should be no exceptions. If a person is appointed for a duty of this kind and finds that he is unable to attend to it, he should certainly notify the Secretary of the fact in season for another to be appointed in his place; second, that in nearly every instance their awards were just and equitable, giving general satisfaction to the exhibitors; third, that they were all very prompt in handing in their reports, thus enabling the executive committee to revise the premium list and the Treasurer to commence paying premiums immediately after the fair.

It certainly seems to us that the Society has this year taken a

fresh start in the right direction, and the peculiar position which this Society now holds in the Commonwealth, demands that there should be no retrograde movement, but that its future should be one of rapid advancement. The next year being the twenty-fifth anniversary, we suggest that the occasion be celebrated by holding a jubilee exhibition, that unusual efforts be made, not by the executive officers only, but by the members themselves, *every one* bringing *something* for exhibition, and the whole community attending *en masse.*

J. L. SKINNER, Secretary.

ABSTRACT OF THE ADDRESS.

Dr. Noah Cressy, the State Veterinary Surgeon of Connecticut, and now the Professor of Veterinary Science in the Agricultural College, addressed the society, speaking at some length on the "Importance of Veterinary Education" among the farmers. He considered the subject under three different aspects. First, its importance as an element of mental discipline. In this respect he alluded to the relations between man and the lower orders of animals, and said that all the *vertebrates* so called, were built upon the same general plan of structure, thus by studying any one of these in detail, we could not fail to comprehend the law, which governed the organizations and developments of others. All were possessed with a backbone, but the number of fragments or peices of which it is composed, varies in different species; so with these diverging appendages which are called fins, flippers, legs, wings and arms, according to the various purposes to which they were applied. The hand of man, though used in a different way and far more extensively in its range of application, than the forward foot of the hog, yet it is composed of the same number of bones, precisely, with the exception of those of the thumb. He spoke of the foot of the horse, which answers to the middle finger of the human hand, and said that these little bones in the back of the horses leg, which on account of their shape were known as "splints" actually bare toes in a fossil representative of the equine race. And thus it is believed by many naturalists that the domestic horse has descended from this three toed animal, which on account of its close resemblance has been called the *hipparion*, or fossil pony, so to speak, of which seventeen species have been found in North America. Hence comparative anatomy becomes a very useful and interesting branch of study, and should be taught in all of our agricultural colleges, as a regular branch of instruction. This would discipline the mind and prepare the pupil for the important study of Veterinary medicine.

In the second place, Professor Cressy referred to his subject

as a sanitary measure, and called the attention of the people to the amount of diseased meat which was annually bought and sold in our large city markets, all over the country. Last winter some five hundred sick creatures, were slaughtered in the state of New Jersey, during the prevalence of Pleuropneumonia there, and sold for human food. And yet nothing has been done in this country to curtail these wilful and criminal transactions. He spoke of that new class of diseases known as the Anthrax fevers, which included black leg splenic appoplexy in cattle, and braxy in sheep. All of which maladies are very malignant, and render the flesh of such victims very deleterious, and many times even poisonous, when consumed by the human family. As this disease is so little understood, we were very liable to slaughter an animal, at any time for food, when it might be affected with one of these insidious diseases, and would have died, if it had not been killed. Hence the importance of veterinary education, that we may be prepared to guard our tables from all such meats in every form.

And, lastly, the professor assured us of the immense value of such knowledge in a financial point of view. We are liable, at any time, to have pleuropneumonia break out again within our midst ; for its latent germs are now very widely sown, and, since its first appearance here, in 1842, we have never been entirely free from its local ravages, which, in the aggregate, has already caused an immense sacrifice of live stock property, in various parts of the country. He spoke of the liability of the Russian cattle plague being brought to our native shore. It has visited the British Islands several times, for want of sufficient quarentine regulations on the eastern fronteer, and the " foot and mouth disease " may actually be imported with the regular shipment of foreign stock ; our ports are not guarded by a competent veterinary inspector. Dr. Cressy spoke with much zeal in this direction, and urged that the farmers should contribute to the advancement of veterinary science. We are glad to welcome him to our agricultural community, and hope and trust that he will favor us again with some of the results of his investigations on this important subject.

It is a matter of regret that circumstances were such as to make it necessary to ask Dr. Cressy to speak from the stand instead of in the hall, the wind making it difficult for many to hear distinctly.

LIST OF PREMIUMS

AWARDED AT THE TWENTY-FOURTH ANNUAL EXHIBITION OF THE HAMPSHIRE AGRICULTURAL SOCIETY.

Class 1—Town Teams. 3 Entries.

Amherst,	29 yokes. Premium of $10,	$39 00
Hadley,	14 "	14 00
Pelham,	10 "	10 00

Class 2—Oxen. 3 Entries.

R. H. Howard, Amherst,	5 00
Chester Smith, Hadley,	4 00
Edmund Smith, "	3 00

Class 3—Trained Oxen. 7 Entries.

E. P. Hibbard, Hadley,	4 00
A. A. Rankin, Pelham,	3 00
J. P. Gray, Amherst,	2 00
L. H. Newell, Pelham,	1 00

Class 4—Steers. 3 Entries.

F. Gaylord, Amherst,	3 00
Phineas Bridgman, Belchertown,	2 00

Class 5—Milch Cows. 27 Entries.

O. S. Longley, Amherst,	5 00
" "	3 00
P. D. Hubbard, Sunderland,	2 00

Clasl 6—Herds of Milch Cows. No Entries.

Class 7—Heifers. 22 Entries.

Harrison Ingram, Amherst,	3 00
Parsons West & Son, Hadley,	2 00
P. D. Hubbard, Sunderland,	1 00

Class 8—Bulls. 11 Entries.

Shorthorn.

A. T. Judd, South Hadley,	7 00
Parsons West & Son, Hadley,	5 00

Ayrshire.

M. L. Hubbard, Sunderland,	5 00

Jersey.

Wm. Crocker, Sunderland,	5 00

Class 9—Calves. 21 Entries.

Parsons West & Son, Hadley, pair of Steer Calves.	2 00
L. S. Nash, Amherst, thoroughbred bull calf,	3 00
M. F. Dickinson, " " "	2 00
Edwin F. Marsh, " heifer calf,	3 00
A. W. Hale, " "	2 00
S. S. Hibbard, Hadley, "	1 00

Class 10—Herds of Cattle. 1 Entry.

Parsons West & Son, Hadley,	6 00

Class 11—Swine. 15 Entries.

Wm. Eastman, Amherst, boar,	3 00
E. B. Lovett, " "	2 00
F. W. Field, Leverett, sow with pigs,	5 00
Nathaniel Smith, Sunderland, "	3 00
E. B. Lovett, Amherst, "	2 00
F. H. Williams, Sunderland, "	2 00
F. W. Field, Leverett, lot of weaned pigs,	5 00

Class 12—Sheep. 17 Entries.

John A. Morton, Hadley, Southdown buck.	4 00
Thomas Read, Amherst, " "	3 00
James Comins, Hadley, " "	2 00

John A. Morton, Hadley,		ewes,	5 00
Austin Eastman, Amherst,		"	4 00
P. D. Hubbard, Sunderland,		"	3 00
John A. Morton, Hadley,		lambs,	3 00
P. D. Hubbard, Sunderland,		"	2 00

Class 13—Poultry. 51 Entries.

S. A. Thayer, Belchertown,		pair of turkeys,	3 00
S. W. Boutwell, Leverett,		"	2 00
James Comins, Hadley,		"	1 00
Samuel Hastings, Amherst,		pair of ducks,	2 00
James Comins, Hadley,		"	1 00
Merrick J. Gallond, Amherst,		pair of pigeons,	2 00
H. E. Stockbridge,	"	"	1 00
James Comins, Hadley,		pair of Guinea fowls,	1 00
Samuel Hastings, Amherst,		cock and two hens,	4 00
A. B. Howard, Belchertown,		" "	3 00
L. W. Allen,	Amherst,	" "	2 00
H. E. Stockbridge,	"	" "	1 00
Wm. R. Montague, Hadley,		Collection,	1 00
Samuel Boltwood, Amherst,		"	1 00
Sylvester Jewett, Pelham,		"	1 00
A. W. Hale,	Amherst,	"	1 00
Dwight Graves,	"	Bantoms,	50

Class 14—Mechanic Arts and Farm Implements. 51 Entries.

John E. Read,	Amherst,	sewing machine treadles,	3 00
"	"	horse planter,	1 00
"	"	two horse hoes,	1 00
"	"	hand cultivator,	Diploma
E. A. Davis,	"	Surveyors transit,	Diploma
C. O. Parmenter,	"	Weed sewing machines,	3 00
T. W. Sloan,	"	assortment boots and shoes,	3 00
Porter Dickinson,	"	boot-jacks,	50
Young Brothers,	"	display furniture, &c., Dipl. and	2 75
D. Graves & Co.,	"	samples of turning,	1 00
"	"	window blinds,	50
A. J. Robinson,	"	baby carriage,	1 00

M. M. Marsh & Son,	Amherst,	assort. furniture, &c., Dipl. and	1 75
Mrs. O. H. Curtis,	"	camp chair,	50
L. H. Allen,	"	wire goods,	1 00
Saxton & Burnell,	"	chromo lithographs,	2 00
Dickinson & Lee,	"	stoves, ranges, &c.,	7 00
"	"	drip pan for marble wash-bowl,	Diploma
E. A. Baldwin,	"	Wheeler & Wilson sewing Mach.	3 00
C. Carver & Sons,	"	case of gold and steel pens,	2 00
J. W. Hobart,	"	plows, hay-cutter, &c., Dipl. and	1 25
M. N. Spear,	"	paper hangings,	3 00
Clement Nickle Burner Co.,	Northampton,	case of burners	50
James H. Morley,	Northampton,	Florence sewing machines,	2 00
Wilber F. White,	Belchertown,	manure spreader,	3 00
J. E. Waite,	Hatfield,	tobacco press, box clamp, twine holder, &c.,	Diploma and 1 75
C. E. Bates,	So. Deerfield,	tobacco transplanter,	50
T. E. Munsell,	Sunderland,	Wood's mowing machine,	Diploma
Grandy Brothers,	Stafford Springs, Conn.,	saw sets, nurse heater, glue pot, &c.,	2 50

Class 15—Domestic and other manufactures. 41 Entries.

J. W. Smith,	Amherst,	rag carpet,	75
Mrs. L. W. Beaman,	"	cushion cover.	50
Mrs. Harrison Ingram,	"	rag carpets,	1 00
Mrs. S. S. Dickinson,	"	rag carpets,	1 00
Mrs. James S. Bartlett,	"	rugs,	1 75
Mrs. Willard Kellogg,	"	bed spread,	50
Mrs. H. J. Clark,	"	bed quilt,	2 00
Lessie E. Brown,	"	rug,	25
Mrs. Austin Eastman,	"	knit bed spread,	50
Mrs. L. S. Nash,	"	bed quilt,	50
M. N. Spear,	"	window shades,	50
Nancy E Comins,	Hadley,	rug,	50
Maria L. Comins,	"	rug,	50
Mrs. J. M. Rell,	"	bed spreads,	4 25
Mrs H. C. Comins,	"	rugs, hose, &c.,	1 25
Mrs. Wm. R. Montague,	"	cotton hose,	50
Mrs. John A. Morton,	"	bed quilts,	75

Mrs S. F. Cooley,	Hadley,	rag carpet,	50
Mrs. Geo. L. Cooley,	Sunderland,	children's hose,	25
Mrs. E. P. Dickinson,	"	rag carpet and bed quilts,	1 00
Mrs. Wm. Crocker,	"	rug,	25
Mrs. S. W. Boutwell,	Leverett,	hose and mittens,	50
Mrs. Dwight Thayer,	"	bed quilt,	50
Mrs. J. G. Ward,	Pelham,	rug,	1 00
Mrs. R. Ward,	"	woolen hose.	2 00

Class 16—Fancy Articles. 78 Entries.

George Warner,	Amherst,	rustic box,	1 00
E. A. Davis,	"	maps,	50
C. O. Parmenter,	"	sterling organ,	Diploma
Carrie Eastman,	"	tidies and watch case,	75
Alice A. Dickinson,	"	tidies and toilet set,	1 00
Lucy Boice,	"	tidy,	50
Mrs. Sanford Boice,	"	lamp mats,	25
Mrs. H. J. Clark,	"	tidy, collar and cuffs,	1 00
Anna E. Stockbridge,	"	worked slippers,	25
Abbie M. Stockbridge,	"	toilet mats,	25
Jennie Sloan,	"	tides,	35
Mrs. O. H. Curtiss,	"	cushion and mat,	50
Mrs. J. W. Allen,	"	lamp mat and tidy,	50
Mrs. S. W. Whitney,	"	sofa pillow and tidy,	1 00
Mrs. Hattie Guertin,	"	lamp mat,	50
Mrs. L. G. Burnell,	"	cushion and parlor rag-bag,	50
Miss Kittie Burnell,	"	air castles and letter receiver,	50
Emma B. King,	"	pine apple work,	50
Mrs. H. K. Potwine,	"	worsted picture,	1 00
Mrs. Austin Eastman,	"	lamp-mat and tidy,	85
Mrs. Stetson Hawley,	"	tidy,	50
Mrs. Wm. F. Ellis	"	Afg. blanket and children's garments,	2 50
H. M. McCloud,	"	record book,	50
Prof. H. W. Parker,	"	landscapes,	2 00
Jennie Cowles,	"	wax autumn leaves,	50
Mrs. H. B. Richardson,	"	cross,	50
Mrs. Lucius Ingram,	"	tides,	25
Lucia Kellogg,	"	toilet cover and tidy,	50
M. N. Spear,	"	case of fancy articles,	1 00

Mrs. A. M. Bardwell, Amherst,	case of bonnets, &c.,	1 00
Mrs. H. C. Comins, Hadley,	chair bottom,	50
Willie H. Comins, "	picture,	35
Martha V. Cowles, "	tidy,	25
Emma L. Cowles, "	bead cushion,	35
Eliza Smith, Sunderland,	tidy,	25
Mrs. P. D. Hubbard, "	tidy,	25
Mrs. M. L. Hubbard, "	toilet cover and tidy,	50
Adelia Dickinson, "	toilet cushion and mats,	25
Mary Warner, "	crochet mat,	25
Mrs. T. L. Powers, "	tidies,	25
Mrs. Rufus Thayer, Leverett,	tidy,	30
Mrs. Dwight Thayer, "	tidies,	50
Mrs. S. L. Cleveland, So. Deerfield,	mottoes and letter reciver,	75
Hattie Cleveland, "	picture frame,	40
Sarah Cleveland, "	work basket,	25
Mrs. A. A. Rankin, Pelham,	tidies and childs' sack,	1 00
Mrs. C. F. Pease, Whately,	tidies,	25
M. J. D. Hutchins, Springfield,	Chickering piano,	Diploma

Class 17—Display of Domestic and other Manufactures and Fancy Articles. 3 Entries.

Saxton & Burnell, Amherst,	5 00
M. N. Spear, "	2 00
Mrs. A. M. Bardwell, "	1 00

Class 18—Bread. 17 Entries.

Mrs. Chester Cowles, Amherst,	wheat bread,	2 00
Mrs. M. L. Hubbard, Sunderland, "	"	1 00
Mrs. P. D. Hubbard, " "	"	50
" " "	rye "	2 00
Mrs. Chester Cowles, Amherst,	" "	1 00
Mrs. S. W. Boutwell, Leverett,	" "	50
" " "	rye and Indian "	2 00
Mrs. Charles H. Kellogg, Amherst, "	"	1 00
Mrs. Geo. L. Cooley, Sunderland, "	"	50

Class 19—Butter and Cheese. 11 Entries.

Mrs. P. D. Hubbard, Sunderland, butter,	4 00
Mrs. Geo. L. Cooley, " "	3 00
Mrs. S. W. Boutwell, Leverett, "	2 00
Mrs. Asa Adams, Amherst, "	1 00
Mrs. L. S. Nash, " "	1 00
Mrs. A. W. Stacy, Belchertown, cheese,	4 00
Prescott Cheese Factory, Prescott, "	3 00
" " " " "	2 00

Class 20—Honey, Wines, Jellies, Canned and Dried Fruits, Pickles, Maple Sugar and Syrup. 29 Entries.

Mrs. C. H. Kellogg, Amherst,	1 75
Mrs. S. S. Dickinson, "	1 50
Mrs. Joseph Dickinson, "	75
Mrs. Chester Cowles, "	50
Mrs. H. C. Comins, Hadley,	1 75
Mrs. E. P. Dickinson, Sunderland,	1 50
Mrs. P. D. Hubbard, "	1 50
Mrs. M. L. Hubbard, "	50
Mrs. S. W. Boutwell, Leverett,	50

Class 21—Fruits. 48 Entries.

F. B. Paige, Amherst, miscellaneous fruits,	4 00
A. B. Howard, Belchertown, " "	3 00
Geo. L. Batchelder, Sunderland, " "	2 00
F. B. Paige, Amherst, basket of assorted fruits,	3 00
W. H. Comins, Hadley, " " "	2 00
Woodbridge A. King, Amherst, collection of Apples,	4 00
F. B. Paige, " " "	3 00
L. K. Blair, Pelham, " "	2 00
S. F. Cooley, Hadley, " "	1 00
A. B. Howard, Belchertown, collection of pears,	4 00
F. B. Paige, Amherst, " "	3 00
W. H. Comins, Hadley, " "	2 00
D. S. Cowles, " " "	1 00

Geo. L. Batchelder,	Sunderland,	collection of grapes,	4 00
D. S. Cowles,	Hadley,	" "	3 00
F. B. Paige,	Amherst,	" "	2 00
"	"	collection of peaches,	2 00
James B. Roberts,	"	collection of quinces,	2 00
Geo. L. Batchelder,	Sunderland,	" "	1 00
A. A. Rankin,	Pelham,	collection of cranberries,	2 00
L. K. Blair,	"	" "	1 00
"	"	barberries,	50

Class 22—Vegetables, Seeds, Grains and Roots. 101 Entries.

L. W. Goodell,	Belchertown,	collection of vegetables,	3 00
H. C. Comins,	Hadley,	" "	2 00
L. K. Blair,	Pelham,	largest variety of potatoes,	2 00
A. Gates,	"	" "	1 00
H. C. Comins,	Hadley,	best peck of potatoes,	2 00
James B. Roberts.	Amherst,	" "	1 00
Austin Eastman,	"	" onions,	2 00
A. T. Judd,	So. Hadley,	" "	1 00
Wm. H. Russell,	Hadley,	best twelve carrots,	2 00
F. D. Huntingdon,	"	" "	1 00
"	"	" parsnips,	2 00
"	"	" flat turnips,	2 00
James Comins	"	" "	1 00
L. W. Goodell,	Belchertown,	" ruta bagas,	2 00
L. S. Nash,	Amherst,	" "	1 00
James B. Roberts,	"	" beets,	2 00
F. D. Huntington,	Hadley,	" "	1 00
L. W. Goodell,	Belchertown,	" tomatoes,	2 00
Wm. Eastman,	Amherst,	best six winter squashes,	2 00
Chas. H. Kellogg,	"	" "	1 00
F. B. Paige,	"	" pumpkins,	2 00
Geo. L. Gates,	Pelham,	" "	1 00
Chas. S. Smith,	Amherst,	best twelve ears sweet corn,	2 00
Homer L. Cowles,	Hadley,	" "	1 00
J. B. Roberts,	Amherst,	best trace of seed corn,	2 00
Chas. S. Smith,	"	" "	1 00
S. S. Hibbard,	Hadley,	winter wheat,	2 00

Chester Smith, Hadley, winter wheat,	1 00
James Comins, " spring "	2 00
A. Gates, Pelham, " rye,	2 00
Daniel Cowles, Hadley, "	1 00
James Comins, Hadley, oats,	2 00
L. W. Goodell, Belchertown, collection of flower and vegetable seeds,	2 00
Mrs. S. W. Boutwell, Leverett, collection of flower seeds,	1 00
L. K. Blair, Pelham, white beans,	1 00

Class 23—Flowers. 20 Entries.

Mrs. J. P. Gray, Amherst, collection,	5 00
A. B. Howard, Belchertown, "	3 00
L. W. Goodell, " "	2 00
Mrs. E. F. Cook, Amherst, "	1 00
Mrs. Geo. Sheperly, Hadley, "	25
Mrs. J. P. Gray, Amherst, asters,	2 00
Mrs. E. F. Cook, " "	50
A. B. Howard, Belchertown, "	50
" " dahlias,	2 00
Miss Fannie H. Smith, Leverett, "	1 00
A. B. Howard, Belchertown, verbenas,	2 00
Mrs. J. P. Gray, Amherst, "	1 00
" " " gladiolus,	2 00
Mrs. E. F. Cook, " coxcombs and zennias,	1 00
L. W. Goodell, Belchertown, annual flox,	50

Class 24—Stallions. 5 Entries.

H. M. Smith, Enfield,	8 00
W. H. Ward, Montague,	5 00
F. M. Dodge, Palmer,	Diploma and 3 00

Class 25—Breeding Mares with Sucking Colts. 4 Entries.

Edmund Smith, Hadley,	5 00
Alden Graves, Sunderland,	4 00
Asa Adams, Amherst,	2 00

Class 26—Colts and Fillies. 9 Entries.

Roswell H. Allen, Prescott, 3 year old colt,	3 00

F. H. Williams, Sunderland, 3 year old colt,	2 00
Alden Graves, " 2 " "	3 00
Geo. F. Day, Montague, 2 " "	2 00
F. H. Williams, Sunderland, 1 " "	3 00

CLASS 27—FARM HORSES. 13 ENTRIES.

Wm. W. Smith, Amherst, pair,	6 00
J. G. Ward, Pelham, "	5 00
D. A. Wright, Hadley, "	4 00
E. C. Clapp and Bro., Northampton, pair,	3 00
F. H. Williams, Sunderland, single,	4 00
N. L. Harlow, Amherst, single,	3 00
J. B. Kentfield, Hadley, "	2 00

CLASS 28—CARRIAGE HORSES. 27 ENTRIES.

Geo. C. Smith, Hadley, pair,	6 00
Harvey White, Amherst, "	5 00
Alden Graves, Sunderland, pair,	4 00
Alonzo Crafts, Whateley, "	3 00
Smith Harding, So. Deerfield, single,	5 00
R. M. Montague, Hadley, "	4 00
R. W. Phelps, Amherst, "	3 00
Alanson Hubbard, Sunderland, "	2 00

CLASS 29—ROADSTERS. 5 ENTRIES.

L. S. Dyer, Hatfield,	8 00
Thaxter Shaw, Montague,	5 00
T. T. Sisson, Amherst,	3 00
Geo. A. Griffin, Palmer,	2 00

CLASS 30—JACKS AND MULES. 2 ENTRIES.

Geo. C. Smith, Hadley, pair,	5 00
Thaddeus Smith, " "	3 00

MISCELLANEOUS.

Charles Eastman, So. Hadley, orchard, Harris' Report on Insects and Diploma.	
Charles Eastman, " report,	5 00
H. E. Stockbridge, Amherst, "	2 00

Analysis of Premiums and Gratuities awarded.

Amount awarded for		Neat Stock,	$217 63
"	"	Horses,	140 00
"	"	Sheep,	33 00
"	"	Swine,	28 00
"	"	Poultry,	29 50
"	"	Grain and Root Crops,	45 00
"	"	Cranberries,	5 00
"	"	Fruits,	55 50
"	"	Flowers,	37 25
"	"	Other cultivated Crops,	11 00
"	"	Butter,	14 00
"	"	Cheese,	9 00
"	"	Preserved fruits, &c.,	11 75
"	"	Bread,	10 50
"	"	Mechanic Arts and Farm Implements,	54 50
"	"	Domestic Manufactures, &c.,	31 00
"	"	Fancy Articles,	27 85
"	"	Other objects,	19 63
		Total Amount awarded,	$780 11

DISTRIBUTION OF PREMIUMS.

NAMES OF TOWNS RECEIVING PREMIUMS AND GRATUITIES, AND AMOUNT PAID TO EACH.

NAME OF TOWN.	NO. OF ENTRIES.	AMOUNT PAID.
Amherst,	340	$297 41
Hadley,	110	135 03
Sunderland,	63	66 38
Belchertown,	29	43 50
Pelham,	29	36 25
Prescott,	11	27 00
Leverett,	22	25 93
South Hadley,	8	13 00
Hatfield,	6	11 88
Montague,	4	5 00
South Deerfield,	8	3 20
Stafford Springs, Conn.,	3	1 25
Northampton,	5	1 00
Palmer,	2	1 00
Entries from other places,	25	
Whole number of entries,	665	Total amount premiums paid $667 83

Number of persons to whom premiums and gratuities were paid, 194

Number of premiums and gratuities paid, 310

REPORT ON FRUITS.

The Hampshire Agricultural Society is prominent in its position, casting its shadow over a large family of youthful farmers, gathered from all parts of the State, leading them by the hand, pointing them to the eminence which they may attain by virtue, industry and patience, mingled with talent, where they may regard themselves as qualified and prepared to exert a mighty influence upon the agricultural, financial and political interests of the country. Also, over a literary institution where the twigs are bent as the trees *should* incline. The society, scorning trickery and dictation by speculators, will exert its utmost power to promote the interests for which it was created, will tolerate no partiality in the awards of premiums nor unfairness in any manner. Such is our understanding of the character of the society; without that confidence we should decline to co-operate.

Reporting upon fruit in its different conditions and requirements, necessitates a knowledge which we claim not to possess, and you will pardon us if we depart from the usual track of our predecessors. The multiplicity of varieties of apples, their relative value for culinary, dessert and commercial purposes, the management of orchards, cultivated or in sod, and year of bearing, are each pertinent in our opinion to be discussed on such occasions.

YEAR OF BEARING.

This topic deserves intense thought and thorough investigation, though usually treated with stoical indifference. Strange that questions of vital importance to communities should call forth active opposition and ridicule, when brought to the notice of individuals; such has been the fate of the idea of comparatively equalizing the crops of apples in the different years. We are happy to announce that the effort is crowned with perfect success.

Our attention was first called, some twenty years since, to a variety of fruit, by the account of its wonderful productiveness. Wish-

ing to know the facts in the case, we called upon Mrs. Street, whose late husband purchased the place in 1801, at which time the tree, from her description, was about six inches in diameter near the ground, and was not grafted after they owned it, thought it was a seedling, said that it yielded seventy-five bushels of fruit in a year when apples were scarce, sold a part of them to persons who came for them from Connecticut, at one dollar and twenty-five cents per bushel. This was confirmed by her son and daughter present. Trees grafted for neighbors with this fruit, a part of them gave their crop in a given year, the others the year following. We procured scions from those that gave their crop in odd years, set them in our orchard and have been rewarded for faith and works.

Many men, many minds, is a truism when applied to the value of different varieties. Soil, climate, market, fancy of consumers, freaks of epicures, all conspire to multiply the best, the medium, and the worthless, reversing the order of exercise at every stage of progress till no one can be sure that any other one is right ; such is the beautiful picture presented to our vision as we attempt to discuss the never-to-be-settled question.

In the opinions we express, reference is only to New England. As profit yielders, many circumstances tend to throw doubt on any conclusion, some giving their main crop in years when apples are so abundant as to make them of little commercial value, others called constant bearers, mostly native fruit or cider apples ; most of the desirable varieties alternate—consequently it is of the greatest importance that their crop should be in years of highest prices. This has been considered as unobtainable by any effort of the cultivator, or as impossible as was the announcement by Copernicus that the world revolved. Facts may be masked but cannot be annihilated ; the achievements in science are wonderful, why should it be thought incredible that improvements in fruit growing may be attained by the use of a little common sense ? You, gentlemen, officers of the society, can testify upon this point from actual observation ; you have beheld trees drooping with the heavy burden nature has this season placed upon them ; the variety, you are aware, was the Baldwin, aptly termed by some the "Prince of Apples" of its own New England, where its roots penetrate the crevices of the rock underlying the soil, like Samson, taking hold of the foundation when exhibiting its great strength in production. When this variety is

transfered to western soil, we are informed, that like many emigrants, the gain in energy is lost in virtue or flavor.

Mr. President :—While among your friends, have you not held in your hand a perfect specimen of an apple called "victuals and drink," beautiful, transparent, delicious, the juice of which rivals the nectar of the gods? Were they alive at the present time doubtless they would slake their thirst with the delicious beverage.

Our experience with many varieties of apples is so unlike that of others with whom we have conversed, that we fear to express an opinion, yet our business is to unfold history, not to manufacture it. The Greening with us is a shy bearer, the fruit is of little value, being inferior in size and general appearance, while in some soils and localities it is splendid. The Pound Royal is a first-rate fruit, yet very penurious in its production. The Red Astrachan is all that it claims to be in production and quality. The Roxbury Russett is not worth cultivating. The Lyscom requires no reccommendation, it does its own business in that line, wish we had ten times as many. The Gravenstein is beautiful, palatable, profitable, but not a prolific bearer.

We realize the embarrassing position we occupy in the awards of premiums. As we cannot know the qualifying influences that act upon the same varieties in different orchards,—manure, soil and situation. Such influences should be known to judge correctly in determining the value of fruit. We can appreciate the embarrassment of that intellectual youth, who being requested to say which of two girls was the handsomest, replied that he did not like to tell for he should make Sal mad. As we do not consider ourselves infallible we must ask the forbearance of our friends upon this point.

The presentation of fruit this season deserves the sincere thanks of the society. A year of dearth in this branch of husbandry unparalleled in our memory in New England—a season of drouth so intense that nature seemed in agony lest the promise of the early and the latter rain should be unfulfilled. It made it a beautiful sight to behold those tables covered with so large a variety of fruit, grown entirely within the bounds of the society, almost within sight of their hall. No pledge has been given to speculators of compensation for fruits raised and exhibited at other places. It was an illustration of our own people's forecast and energy as seen by the 176 varieties of fruit, raised and exhibited by Mr. W. A. King,

while many others have done what they could, and that was not a little. The interest of the table centered in the monument of fruit, gathered from a "Page" of modern history, suggestive of Eden in the days of our first parents. The privileged committee were virtually forbidden to test its flavor; should they not be credited with a large amount of self denial?

Management of orchards is a subject of consequence to the fruit grower. While circumstances alter cases, general principles should not be lost sight of, viz: the necessities of the tree that its roots should extend deep enough in the earth to be at all times in communication with water, also near the surface that it may have free intercourse with the atmosphere. These two conditions we take it are indispensable to health and longevity; when these principles are violated we are of opinion the effect will be the same as if slow poison were introduced into the human system. Our practice as a rule has been to plant in the sod and leave nature to manifest its own wisdom. Where we have cultivated for a few years the result has not been satisfactory. It is our opinion that those who root prune freely with the plough and extract the vegetable matter from the soil by means of crops will find themselves penny wise and pound foolish.

In the course of observation upon the habits of trees as regards the year of bearing, our attention was drawn to some standing near each other which commenced bearing in different years soon we; observed the odd year tree produced a few apples in the even year on that part of the tree nearest its even year companion. The next year, the even year tree reciprocated the compliment in the same manner. The thought impressed itself upon us that fashion was as omnipotent in the orchard as with the Ladies—we were mistaken, it was the codling moth that had wrought the change, impelled by the necessities of nature it selected the nearest apple for the home of its larvæ. As their number is legion, portions of orchards are soon revolutionized; majorities in this, as in republics, govern. It is our opinion that the apple worm has no rights which fruit growers are bound to respect.

The committee tender their thanks to the contributors and officers of the society, for the cordial co-operation which has made this anniversary so pleasant and profitable.

CHARLES EASTMAN. *Chairman.*

REPORT ON CALVES.

There were but eleven entries in this class. It is a pity that there are but eleven calves in Hampshire County, worthy of being taken to cattle show.

STEER CALVES.

It is to be regretted that there was but one pair of steer calves on exhibition. They were entered and owned by Parsons West of Hadley. They were eleven months old, small but well matched; they received the second premium, not being considered worthy of the first. There was a good exhibition of working oxen and it is strange that the hill towns will let Hadley go ahead of them in the exhibition of steers. If any one was to judge by the number of steer calves exhibited, it would appear that the farmer could better afford to use horses than oxen to do his farm work.

BULL CALVES.

I am afraid that the stock of this community will not be improved very fast, if it does not possess more full blooded bull calves than is indicated by the number entered. There were but two full-bloods entered; the one that received the first premium was owned by L. S. Nash of Amherst. It was an Ayrshire, six months old and a good specimen. The one that received the second premium was owned by M. F. Dickinson of Amherst; it was a Jersey, four months old and a very good one of its kind. There were two grades entered; one owned by F. Gaylord of Amherst was six weeks old and the handsomest calf on exhibition. The one owned by L. K. Blair of Pelham, was a grade Jersey, ten months old and very large of its age.

HEIFER CALVES.

There were six heifer calves entered and all of good quality, but it is a shame there were no full-bloods on exhibition. The calf that received the first premium was owned by E. Marsh of So. Amherst;

it was six months old, a grade short born and a very fine calf. The second premium calf was owned by A. W. Hale of Amherst; it was one half Swiss, one fourth Jersey and five months old. A calf owned by S. S. Hibbard of No. Hadley received the third premium; it was a native, five months old and a very handsome calf. The committee would recommend that the exhibitors of calves should make a written statement with regard to the method of feeding their calves.

Respectfully submitted,

H. E Stockbridge.

Chairman of the Committee.

NEW MEMBERS.

New Members—1872.

Charles A. Hyde, Amherst.
Henry Holland, "
Oliver Cowles, "
P. E. Irish, "
E. J. Wheaton, "
Mrs. E. J. Wheaton, "
Mrs. J. C. Read, "
Walter D. Cowles, Amherst.
Charles Eastman, South Hadley.
G. R. Eastman, "
W. H. Comins, North Hadley.
*Truman Meekins, North Hadley.
L. W. Goodell, Belchertown.

*Deceased.

New Members—1873.

Harvey White, Amherst.
John E. Read, "
T. W. Sloan, "
Mrs. W. W. Smith, "
Martha E. Eastman, "
W. H. Ward, Montague.
L. K. Blair, Pelham.
C. O. Parmenter, Pelham.
Mrs. J. G. Ward, "
Mrs. James M. Bell, No. Hadley.
Geo. L. Batchelder, Sunderland.
Roswell H. Allen, Prescott.

TREASURER'S REPORT.

J. L. SKINNER, Treasurer, in Account with Hampshire Agricultural Society.

1873.		Dr.
To cash received of Amherst Savings Bank,		$400 00
" "	State Treasurer,	600 00
" "	Life Members,	50 00
" "	for entrance fees and admission,	984 19
	Total receipts,	2034 19

1873.		Cr.
By cash paid for Premiums,		$667 83
" "	Interest,	81 59
" "	Insurance,	25 50
" "	Special premiums,	215 00
" "	Labor and incidental expenses,	123 30
" "	Books, postage, stationery, express, &c.,	21 80
" "	Band expenses,	20 00
" "	Printing,	50 47
" "	Geo. B. Gallond, for dinners,	29 00
" "	Geo. E. Parker,	35 75
" "	Secretary and Treasurer,	75 00
" "	M. A. C. scholarship, 1872,	54 00
" "	Various bills of 1872,	208 15
	Total expenditures,	$1607 12
	Cash on hand,	427 07
		$2034 19

Amherst, Dec. 18, 1873.

I have examined the foregoing account and find it correct.

O. G. COUCH, Auditor.

STATEMENT:

SHOWING BUSINESS TRANSACTED BY THE TREASURER STRICTLY BELONGING TO THE YEAR 1873.

Received from the State,	$600 00
" Gate fees, first day,	154 20
" " second day,	608 73
" from sutlers, pedlars, &c.,	130 76
" Entrance fees for trotting horses,	90 50
" for life members' certificates,	50 00
Total receipts,	$1,634 19

Paid, Premiums,	$551 57
" Interest,	44 82
" Insurance,	25 50
" for the four races,	215 00
" for books, postage, stationery, express, &c.,	21 80
" for labor and incidental expenses,	123 03
" for band expenses,	20 00
" for printing,	50 47
" for dinners,	29 00
" Amherst House bill,	35 75
" Secretary' salary,	75 00
To pay for printing Reports and advertising,	59 00
" for use of hall for annual meeting,	8 00
" interest Jan. 1st,	51 10
Total expenditures,	$1,310 04
Profits of the year,	324 15
	$1,634 19

STATEMENT:

SHOWING BUSINESS TRANSACTED BY THE TREASURER, BELONGING TO THE YEAR 1872.

Paid Interest,	36 77
" Expenses of Mortgage,	3 00
" H. M. McCloud,	76 50
" E. A. Thomas,	87 95
" Harvey White, bill,	5 17
" Young Brothers, "	2 80
" M. M. Marsh & Son, "	3 00
" S. Holland & Son, "	1 98
" D. A. Hoag, "	7 75
" John Boltwood, labor,	4 00
" Enos E. Cook, "	5 00
" E. A. King, keeping stock,	3 00
" D. W. Palmer, use of hall,	8 00
" Mass. Agricultural College scholarship,	54 00
" Premiums,	116 26
Total Payments for 1872,	$415 18
Received of Amherst Savings Bank,	400 00
Paid Bills of 1872 out of receipts of 1873,	$15 18

STATEMENT:

SHOWING THE CONDITION OF THE SOCIETY.

Notes at Amherst Savings Bank.			$1,400 00
Cash on hand,		$427 07	
Bills that must be paid before the next annual Fair :—			
Printing Transactions, and advertising annual meeting,	$59 00		
Use of hall for annual meeting,	8 00		
Interest due Jan. 1st, 1874,	51 10		
Interest due July 1st, 1874,	51 10	$169 20	
Cash in the treasury at the next annual Fair, provided nothing is paid for repairs or incidental expenses in the meantime			$257 87
			$1,142 13

TRANSACTIONS

OF THE

Hampshire Agricultural Society

OF

AMHERST, MASS.,

FOR THE YEAR 1874.

Amherst:

HENRY M. McCLOUD, PRINTER AND BOOKBINDER.

—1874—

OFFICERS FOR 1874.

PRESIDENT,

H. C. COMINS, OF NORTH HADLEY.

VICE-PRESIDENT,

CHARLES S. SMITH, OF AMHERST.

SECRETARY AND TREASURER,

J. L. SKINNER, OF AMHERST.

EXECUTIVE COMMITTEE,

E. F. COOK, OF AMHERST,
A. R. OWEN, OF BELCHERTOWN,
N. A. SMITH, OF SUNDERLAND,
CHAS. H. FIELD, OF LEVERETT,
JERIAH S. SMITH, OF HADLEY.

AUDITOR,

O. G. COUCH, OF AMHERST.

MEMBER OF THE STATE BOARD OF AGRICULTURE,

LEVI P. WARNER, OF SUNDERLAND.

SECRETARY'S REPORT.

More than ordinary efforts were made by the officers of the Society for the success of the Quarter-Centennial Exhibition. Some of the results of these efforts were manifest, not only upon both days of the Fair, but also in the very large number of entries made on the day previous. So far as practicable, everything intended for exhibition should be entered before the day of the Fair. We are very glad to see a marked improvement in this direction, but it can and should be done much more generally.

The success of all exhibitions of this kind, financially, as well as in all other departments, depends so largely upon the state of the weather on the days of the exhibition, that there is always great risk in laying plans that incur much expense. If we could always be sure of fine weather for both days, we might enlarge our plan of operations considerably, and have no fears of an empty treasury at the close of the year. The weather, this year, did not have in it all the elements of success. The first day was very rainy, and the second, though not rainy, was cloudy and threatenening, which of course kept many from attending. Notwithstanding this serious drawback, the exhibition was good in all departments. There was an unusually fine display of stock of all kinds on the grounds, much more thoroughbred stock than we often have ; a good show of horses in all the different classes ; while in the hall the exhibition was above the average, the display of vegetables, fruits, and flowers, being especially fine. We have every reason to believe, that, but for the rain, the exhibition would have been finer in all departments, and the attendance much larger, still it was in every way creditable to the Society.

It is certain that among a portion of the members there is a growing interest in the welfare of the Society. This is encouraging, so far as it goes, and should be noticed and appreciated by all. What the Society needs, to-day, is that *all* the members

should take a deeper interest. It is well-known that it has become necessary, not only in this society, but in very many like societies in this Commonwealth, that in order to have any exhibition at all, the officers must, for some time previous to the fair, drive all about the surrounding country, and drum up exhibitors. Many men, who have fine stock, or vegetables, or fruits, or some other articles good for exhibition, are perfectly willing to bring them, and will do so provided the committee or a portion of them will call upon them and ask them to. There are others, who, if the committee urge them very hard, will condescendingly consent to exhibit whatever they may have worthy, as though they were conferring a special favor upon the officers of the society by so doing. This is all wrong, and ought not so to be. All the members of the society should take such an interest in getting up a fine exhibition that they will not think of waiting for the honor of a visit from the executive committee to ask them or urge them to do so, but of their own free will, bring their best products to the fair. There are some who do this—may the number increase from year to year, until it shall not be necessary for the officers to make "more than ordinary efforts."

J. L. SKINNER, Secretary.

ADDRESS.

BY PROFESSOR JULIUS H. SEELYE.

SUBJECT—"MONEY."

Some months ago, the excellent Secretary of the Society came to me, in behalf of the executive committee, and requested that I should give the address upon this occasion. I was very much interested in the reason which he gave. He said that the Society was short of funds, and therefore would like to avail itself of home talent, because a speaker from abroad would be likely to cost something, but if they got a speaker from home it was likely to cost nothing. I was charmed with the appreciation of home talent, and as it is never my way to set any price upon my services, I had nothing to complain of the remuneration in prospect. But it occurred to me, in connection with this question of want of funds, that this subject was really a pretty important matter to any agricultural society, or, in fact, to anybody else.

And, as money seemed to be the great motive in asking home talent to exercise itself on this occasion, I thought money might be as appropriate a theme for remark as anything I could use. And I was led to this also because not only of so wide a misunderstanding—so great ignorance, I might say, in high places—on this topic, but also because it so happens that for some time my attention has had to be directed more or less to the study of this theme, and therefore I thought I could speak things that might not be in the apprehensions of many of those who had not made it a matter of study. So, instead of discoursing of agricultural topics—mowing machines, tilling the soil, etc.—matters in which I should sit at your feet, rather than ask you to receive instruction from me, I ask your attention to this matter of money, that comes home so close to the interests of every one.

And, first, we may ask the question, What is money? There have been, I dare say, a great many different answers to this ques-

tion. Money is wealth, one says, and so it is, but, then, all wealth is not money. Horses are animals, but all animals are not horses. Well, money is wealth everywhere, to be sure, though wealth is not everywhere money. Thus we see what money is not. We may inquire, What is wealth? Wealth—that is a very simple term. It is really a man's weal, a man's well being, something good for a man to have. Wealth is something useful, something beneficial, and it isn't possible for any man to have too much wealth. It isn't possible for any community to have too much wealth. A man or a community may very easily misuse wealth, but not because there is too much of it. Man may misuse his health, but he is never too healthy; may misuse knowledge, but never know too much. A man may misuse anything that is good and serviceable, but it is not because he has got too much of the good, but because he hasn't the right wisdom or right will to use it. It isn't possible that there should be too much wealth for any man, or too much wealth in the community, for wealth is always useful. But we have got to add something to this matter of usefulness to see what wealth is. It has got to be something which is useful and which costs labor to get it. That is the point. That is what makes wealth. It has got to cost labor. Labor enters into wealth everywhere that it is found.

Now, if you should go up to Prof. Shephard's cabinet in the College, you would see the model of what is called the "Welcome Nugget," found in Australia, which weighed in pure gold to the value of $40,000. Well, the miner who found it stumbled upon it by the merest chance, and you say, "How did this cost him labor?" Well, it didn't cost that miner labor, to be sure, but it represented exactly what that amount of gold would cost on the average. Men who seek gold have got to give so much labor in order to get that amount, and, if any man stumbles upon the precious metal, that accident does not disturb the rule. There is no wealth which hasn't labor in it. It is that which is useful to a man and that which costs labor to get it, and thus we are prepared to see that, if there is something useful that costs labor to get it, every one wants it and every one is willing to do something to get it in proportion to his sense of need.

Wealth is of various sorts; houses, cattle, well-cultivated farms are wealth. All these may be wealth, but not the particular kind

of wealth we may need at some certain time. A store full of boots and shoes is wealth, but the man who owns them may need something else, and therefore he is eager to exchange these for something that everybody is willing to take. Now, we want something by which we can regulate such exchanges ; the one has got to balance the other. Thus the advantage in having some standard in order to tell us just how much wealth is represented by any commodity. This standard is money, and this is the difference between money and wealth. Wealth needs a standard of value, in order to tell how much wealth is worth, so that we may know how to exchange our products, and thus money is a standard of value.

Now, these two things will give us the notion exactly what money is. It is always a standard of value, and it is a medium of exchange. These two things have got to belong to money everywhere money is found. In order to be a standard of value, it has got to be valuable—that is, it has got to cost labor, and it has got to be something which people will desire—both these in order to be a standard of value. And, if you keep both these elements in mind, it is possible, you see, to have anything as a standard value. Are you aware what the first money made legal currency in this our Commonwealth was? On the 4th of March, 1635, the General Court of the colony ordered that bullets of full bore should be counted legal currency at the rate of a farthing apiece. In 1637, the same General Court ordered that merchantable beaver should be reckoned as money at the rate of ten shillings a pound. Next, wampum was made current. Innumerable other things have been used as money, iron with the Lacedemonians, cattle with the Romans and our Saxon ancestors, leather with the Carthaginians, cubes of salt with the Abyssinians, etc.—so that anything that is really an object of desire costs labor, from the time of Abraham, when he paid to the children of Heth 400 shekels of silver, till now.

With the civilized and commercial people of the globe, gold and silver have been the money of the world, and there are some things which are advantageous in the metals, which explains why they are used as money. They are valuable ; everybody wants gold and silver, not simply as money, but for ornaments, for plate and other uses. They are valuable in themselves, and then they

cost labor to get them, so that here are metals that have a real value in themselves, and have the first element which is necessary in money. They wear out very slowly, are very easily divisable and largely distributed, are of the same quality and subject to very few fluctuations. Our money, then, is so much gold and silver.

Now, we shall notice that the value of money depends exactly on the amount of circulation. The amount is the great thing. The more money there is, the less valuable, just as in any other commodity, and this brings to notice a very important matter about money, little understood, that, where a nation uses gold and silver, there is never any possibility of a redundancy, or stringency of the money market. Supposing we have got, for a time, a redundancy—more money than is needed. What takes place? One of two things, probably both. In the first place, gold becomes cheap, and we at once begin to use it for other things than money —for ornaments, plate, and other purposes. When gold is cheap, that means, that other things are dear in comparison with it. This immediately leads to the sending off of gold to where it isn't so cheap, for the purchase of goods, and all at once we find a change from redundancy to a healthy equilibrium. So, when there is a stringency, when gold becomes dear, it will be diverted from the making of ornaments and fancy uses, and used for money, and just as prices rose in the other case, just so now they will fall. And so, by a law of adjustment just as beautiful as that of the tides and as inevitable, there isn't any possibility of a redundancy or stringency of the money market where gold and silver—that is, where the money of the world—are used.

What, then, is the meaning of these panics and financial revulsions? Are these meaningless? By no means. We find them occurring all over the world, from time to time. We find, for instance, that a man in Amherst, say, is unable to pay his merchant; he, in turn, is unable to pay the wholesale dealer in New York or Boston, and so the consequences extend, and finally result in a panic, the influence of which may extend all over the world. But how do these panics come? They are possible only because we have put something else in the place of money—undertaken to use the shadow of the thing, and make that do the work of the substance. That is the only reason. Financial panics never have oc-

curred—from the nature of the case they never can occur—where the money of the country *is* genuine money current all over the globe. They all come from no other reason than as I have said: we have got the shadow undertaking to do the work of the substance, which means, in plain language, that we have been telling lies on a large scale—and it isn't profitable to lie.

Now, this being the case, it leads us to notice the important difference between money and currency—that is, between money as I have explained it and the currency as we actually have it. We have got a certain currency—certain papers printed on both sides—which we call money, and the trouble is we are undertaking to make it do the work of money and we can not succeed. This currency, I say, is not money, is not a standard of value, because, in the first place, it hasn't got any value in itself; it doesn't cost any labor to get it, and therfore cannot be a standard of value. Moreover, what sort of a standard is that which stretches out at the beck of Congress or the will of anybody else? On the 25th of February, 1862, Congress passed a law decreeing that one hundred and fifty millions of paper should be made legal tender. July 11th, this was increased by another one hundred and fifty millions. At the same time it was decreed that nothing should be issued of less denomination than one dollar, but in less than a week Congress passed a law issuing fractional currency, of which we have had some forty millions, and this in the face of the declaration of Congress that it shouldn't be issued. Then, on the 25th of Feruary, the next year (1863), Congress authorized the national banking system, allowing the national banks to issue three hundred millions of currency, and then, the 3d of March, the same year, ordered out one hundred millions more of greenbacks; on the 12th of July, 1870, fifty-four millions more. Then our present Congress, after a debate on the currency, which for folly, I believe, has never been equalled in any civilized assemblage on the globe—now, I speak within bounds, there. (applause.) I don't know anywhere of such exhibitions of folly in legislative utterance, as you will find in such speeches as those of Kelley of Pennsylvania, Ferry of Michigan, Logan of Illinois, and others. Well, after this debate, they passed a law ordering twenty-six millions more of legal tender. After they had added this, they would

have issued still more, and were only hindered from flooding the country by the steadfastness of President Grant.

Now I would like to know what sort of a standard would you call that sort of a yard or bushel which could be stretched out at this rate, and you obliged—mind you—to use this stretched measure for the same as the old one? Some one says, "Isn't it a medium of exchange? Cannot we buy things with greebacks?" Of course, we can to a certain extent, but every one knows we cannot buy as much with these paper promises as we could with the dollar which they are falsely supposed to represent. Moreover, we cannot take them abroad. A bank of England note will buy all over the world because there is gold behind it and the whole world knows it, but a United States promise to pay doesn't buy goods outside of the United States, except to a very limited extent in Canada, and this for the reason that it is a dishonored promise—it is the promise of a government that is dishonored every time it issues them. The government doesn't pay what it promises, cannot pay what it promises, makes no attempt to pay what it promises; therefore I say it is dishonest. But no, says Mr. Boutwell—Mr. George S. Boutwell, a senator of Massachusetts, and a late secretary of the treasury. No, he says, this is not a dishonest promise. Look at it—the government doesn't promise to pay at any definite time, therefore the government isn't dishonest, says Mr. Boutwell—says it from his seat in the Senate—because there is no specified time of payment. No specified time of payment! What sort of an operation is that? Suppose a man should come to borrow money of you but without setting any time of payment, and supposing he could wheedle you into lending money on such terms, and when you come to him for its return, he refuses because he had set no time for its payment—what sort of a rascal would you call him who thus took advantage of your folly? Now, gentlemen, these are dishonored promises to pay, and thus produce mischief, and are not worth anything outside of the country that forces their acceptance.

Coming back to the main question, being money as a medium of exchange, I say they do not exchange for what gold and silver would, and they are forced upon us to our incalculable injury. I think any one who looks at the matter honestly is obliged to say

that this whole legal-tender business is one of the greatest mistakes, if not *the* greatest mistake, of our war. Just look at it ; see what it has done. This same legal-tender act has increased our national debt more than one thousand millions of dollars ; it has swollen prodigiously all over our State, town and county indebtedness ; has augmented our taxes, increased the expenses of living, encouraged unthrift and extravagance in the government. Worse than all that, it has poisoned the minds of the people by familiarizing them with these promises and obliging them to use them as though they were good and true. And I say this only needed the addition of a decree of the supreme court of the United States, making it the law of the land, to make it the heaviest curse, the greatest of all mistakes, made in that terrible period of our national life.

Are you aware of what our supreme court has done about the matter? In the spring of 1870 the question came before the court as to the constitutionality of the legal-tender act in its application to debts contracted before its passage. The supreme court decided, as any honest body must, that it was not applicable in such cases. Contracts made when gold was the legal currency should be paid in gold. Any honest eye can see that this is plain justice and law, and so it was decided by a majority of four to three. But what was now the action of our wise law-makers at Washington thereupon? There were prodigous interests at stake. All of our great railroad corporations by this decision had got to pay their bonds in gold. So Congress passes an act increasing the number of the supreme court judges from seven to nine. General Grant appoints to fill the two places thus made a judge who, in an inferior court, had already pronounced an opposite decision to the above, and a man who was the paid attorney of the Pennsylvania Central railroad. Then followed a reversion of the decision of the supreme court, by a majority of five to four, to the effect that the act was constitutional, and this is the way we stand now. Somebody says, " How could we have got along in the war without issuing paper money? " There was an offer by a German banking-house to furnish all the money wanted at 5 per cent. interest, payable forty years hence. But Congress ignored this ; forty years was too long to wait for the privilege of payment. Moreover, it

said, this is a foreign investment ; we must keep our bonds at home. Not let our bonds go abroad ? How is Congress going to help it? These same German capitalists came over and bought these bonds and have got one thousand millions of them now, and we have got to pay the interest to them. Europeans have got five hundred millions more of State bonds, municipal bonds, etc.—that is, we have got fifteen hundred millions of bonds held in Europe that we are bound to pay gold for. But our Congress wouldn't borrow money of these German capitalists. Another fact : One would suppose that, if a government hasn't got money enough, it should borrow money in the market. "But," said one Congressman, "would you have the great government of the United States go shinning about Wall street selling bonds ?" Well, the issue of our legal tenders resulted in selling millions of them at forty cents on a dollar, and these German capitalists and other foreign capitalists invested money at that time, and well, too.

But not to dwell on this matter of the mistake of our legal tender currency, it is the currency of the country, it is forced upon us. We have got to endure it till we can get rid of it. Let us see some of the burdens it lays upon us—upon the farmers of the country, all over it. And in this connection one or two financial laws may be stated. A man who gets hold of these simple principles of finance can see where they will lead to. These laws are just as certain and fixed as that of gravitation. One law is, when we export any commodity and retain of that commodity for our own consumption at home, the price of the part we retain is measured exactly by the price of what we send off. The price of wheat, for instance, or breadstuffs generally, which we are exporting largely, depends exactly on the prices current in Mark Lane, London, which is the controlling market of the world. The price in Mark Lane determines just what any farmer in Massachusetts or Minnesota has got to sell his wheat or corn for, minus the cost of transportation, and this cost you will notice is to be estimated in gold ; only gold is taken there. Now notice that productions that we produce and don't export, and use the whole of them at home, are determined in price by the home market exclusively, and the prices are regulated in currency all through. Now let us see what it is we export besides gold and bonds. First and

largest, of course, cotton ; petroleum, grain, flour, breadstuffs, butter, beef, cheese, lard, pork and tobacco. Agricultural products, you see, make up the great body of our exports. Now the price of all these agricultural productions that we don't export depends necessarily on the price of those we do export, and the price of those we do export are reckoned on the gold basis. Gold, we will say, stands at 1.10, which makes the farmer sell his produce there at the rate of 1.10 in currency for the dollar in gold. Now, this which the farmer sells he sells on the gold basis, but, on the other hand, the productions which he is obliged to buy—cotton goods, wollen goods, boots and shoes, labor, etc., which are not exporting in any quantity—have their price determined necessarily by the state of the market at home, and this market at home estimated in currency, has shown a rise in prices with which you are all familiar. It has been the policy of the government to keep down the price of gold by occasional sales of the reserve in the treasury, but the government has not been able to keep down the prices of these other things. It is certainly within bounds to say that there has been a rise in prices of fifty per cent. Now put these two facts together. For what you sell, you sell in gold at a reduced valuation by this proceedure ; for what you buy, you have got to pay in currency at the full valuation. Gold at 1.10 raises prices to 1.50, which makes the difference of forty per cent. which you are obliged to sacrifice in every bargain you make. There is the simple fact that presses upon the farmers of to-day. There is forty per cent. of their substance wrung from them by this mischievous currency and the course of the treasury department at Washington. The farmers understand that they are burdened, but a great many of them don't know for the life of them why, and so they go on talking about it in a blind fashion, saying this is the trouble and that.

Some say it is the railroads. I don't propose to take up in defense of the railroads, but our tariff of fifty per cent. on iron, the rise in wages and the higher cost of construction, freights, etc., have made them far from profitable. Of course, they bear heavily on the Western farmer, who must get his grain to market, but those men are foolish counsellors who try to delude the farmers in the West with the thought that the whole trouble is with the rail-

roads. The farmers are set against the greedy capitalists, as they call them. But how does the problem look to these greedy capitalists? They have three hundred and fifty millions invested in railroads at the West, and, with the exception of a few isolated cases, none of them are paying a cent in dividends. So far as getting any money from them, the capitalists might just as well throw their money into the sea. The trouble is not with the railroads; the trouble is not with the great class of middle-men about which we hear so much—a class which in a country like ours it is perfectly idle to think of getting along withont. The trouble is not taxation. Taxation is heavy—it is prodigiously heavier than it would have been but for this malignant currency, but you could pay it without feeling it if it wasn't for this currency. It isn't possible for any prosperity to rest upon the agricultural interests of the country as long as this currency, which is eating out their life-blood like a cancer, is allowed to exist. Therefore, amid all the folly that we hear about among grown-up men is there anything quite so senseless as the cry which comes up from our Western farmers for an increase of the currency? These Western farmers have got affiliations here. I know I may be treading on sombody's toes, but I am not a paid machine-rnnner, and I never intend to seek office, and I say that this granger interest, in so far as it is an interest for the increase of the currency, is folly. I will not compare it to the man that killed the goose that laid the golden egg, but to the man who, with his house burning over his head, endeavors to quench the flames with that which makes them burn only the fiercer.

Now let us pause for a moment. It isn't the agricultural interests alone that are affected by this vitiated currency, but the manufacturers also. Our manufacturers complain of hard times, notwithstanding the tariff. There are few articles of which we export more now than in 1860, while of others less. Our cotton manufacturers, who have been meeting in Boston of late, have been talking of an over-production, and combined to shut down their mills, but they wouldn't have to enter into any such combination if the market of the world was open before them. Why isn't the market open? The great reason is the shiftless management respecting the currency, and the depreciation and the change of

prices that have resulted. The markets of the world are simply closed against us, and thus that which burdens the farmer burdens the manufacturer as well as the professional man likewise.

In closing, I am not going to say what you shall do, but I want to speak of what the government has got to do—what it ought to do. Let us see just what the government is shut up to. It is shut up to one of four courses. In the first place, it is possible you can conceive of Mr. Boutwell's policy, the stand-still policy, the let-alone policy—in other words, the policy of growing up to the need of the volume of currency we have now. But this is simply impossible. There is no such thing as growing up except through a contraction of prices. What is the result of a contraction of prices? The pressure at once for an expansion of currency, and, judging from our long experience, we know the result. There is no such thing as standing still. Why, Congress passes laws decreeing that the amount of currency shall be fixed, but all the votes of Congress are not worth the parchment upon which they are engrossed. Congress has, as a matter of fact, been leaping from one folly to another all through this discussion, and who knows to what depth of folly will be the next plunge?

In the next place, the question comes, "Shall we expand?" Certainly, it is possible to expand, and I am sorry to say that it looks very probable that this will be the case. Why, it is logical that the currency should be expanded. Why shouldn't we expand? Other governments have tried it and have had to expand. There is only one government that has ever stemmed the tide—Great Britain--and that only with the suspension of the bank of England for twenty years. You know how it was with our Continental money. Congress began in 1775 by ordering two millions of paper currency. At first, people felicitated themselves, just as they did when the greenbacks were first issued, on the flushness of money, but very soon there had to be more, and Congress didn't stop till three hundred millions were issued. Then the whole thing dropped down, and these issues haven't been paid and cannot be paid. Why, the tendency to inflation cannot be stopped under present circumstances, any more than the insatiable thirst of the drunkard. Thus I think, I am sorry to say, that expansion is extremely probable.

Third, expansion means repudiation. There's nothing that can stop it. I am thankful that this word repudiation is a terrible one to us thus far. Would that we could but hope that it would keep its terrors! But we shall get bravely used to it, sadly used to it, if we go on. Expansion means it. We cannot help it.

And thus we come—in the fourth place—to the only honest, and the only sound and wise course, and the only course. Does it need to be said that the only course is a contraction of the currency? And in this connection a great deal of nonsense has been talked. Some prominent papers have said that the only way to resume is to resume. Only let Congress pass a law and resume. Resumption! How are you going to resume? How are you going to pay specie for those notes, if you haven't got the specie to pay with? It is a very simple problem. How much specie have you got? Perhaps one hundred and fifty millions, all told. But we have got seven hundred and fifty millions of currency. Add to that six hundred millions of deposits, and there are thirteen hundred millions, and you have got one hundred and fifty-six millions to pay it. It is very nice for our newspapers to say resume, but what have you got to resume with? The only way we can get the money is to make a vacuum, and the money comes. The poor currency always must drive out the strong currency, and there is no way to get the strong currency back till you have abridged the quantity of weak currency which has driven it out. Now, we can not get the specie except we contract our currency, and so this is what, as wise men, as honest men, as free men, we ought to demand of the government, and the government ought to do it without any demanding, and ought to have done it, I had almost said, before it began to do otherwise.

LIST OF PREMIUMS

AWARDED AT THE TWENTY-FIFTH ANNUAL EXHIBITION OF THE HAMPSHIRE AGRICULTURAL SOCIETY.

Class 1—Town Teams. 5 Entries.

Amherst,	21 yokes. Premium of $10,	$31 00
Hadley,	20 "	20 00
Leverett,	14 "	14 00
Pelham,	12 "	12 00
Belchertown,	8 "	8 00

Class 2—Oxen. 7 Entries.

A. W. Stacy, Belchertown,	5 00
C. W. Thurber, Leverett,	4 00
C. S. Smith, Amherst,	3 00
C. W. Thurber,	2 00

Class 3—Trained Oxen. 9 Entries.

A. A. Rankin, Pelham,	4 00
S. F. Dudley, Shutesbury,	3 00
James E. Merrick, Amherst,	2 00
Phineas Bridgman, Belchertown,	1 00

Class 4—Steers. 6 Entries.

Three Years Old.

Monroe Keith, Granby,	3 00
John A. Morton, Hadley,	2 00

Two Years Old.

Monroe Keith,	3 00

One Year Old.

Parsons West & Son, Hadley,	3 00
Monroe Keith,	1 00

CLASS 5—MILCH COWS. 27 ENTRIES.

Shorthorns.

S. A. Bates, South Hadley,	5 00
" "	3 00
" "	2 00

Native or Grade.

O. S. Longley, Amherst,	5 00
H. E. Stockbridge, Amherst,	3 00
O. S. Longley,	2 00
B. U. Dickinson, Amherst, gratuity,	1 00

CLASS 6—HERDS OF MILCH COWS. 2 ENTRIES.

Jonathan Cowles, Amherst,	5 00
Parsons West & Son, Hadley,	3 00

CLASS 7—HEIFERS. 27 ENTRIES.

S. A. Bates, South Hadley,	3 00
" "	2 00
" "	1 00

CLASS 8—BULLS. 13 ENTRIES.

Shorthorns.

S. A. Bates, South Hadley,	7 00

Ayrshires.

M. L. Hubbard, Sunderland,	5 00
W. B. Kimball, Enfield,	3 00
L. S. Nash, Amherst,	2 00

Jerseys.

Alanson Hubbard, Sunderland,	5 00
Myron Brown, "	3 00

M. F. Dickinson, Amherst, gratuity,	2 00

CLASS 9—CALVES. 12 ENTRIES.

Parsons West & Son, Hadley, pair of steer calves,	1 00
S. A. Bates, South Hadley, thoroughbred bull calf, Shorthorn,	3 00
David Pomeroy, Amherst, heifer calf,	3 00
S. A. Bates, "	2 00
M. F. Dickinson, Amherst, "	1 00

CLASS 10—HERDS OF CATTLE. 4 ENTRIES.

S. A. Bates, South Hadley,	6 00
Jonathan Cowles, Amherst,	4 00
Parsons West & Son, Hadley,	3 00

CLASS 11—SWINE. 29 ENTRIES.

E. B. Lovett, Amherst, boar,	5 00
H. C. & A. P. Russell, Hadley, boar,	3 00
Edmund Hobart, Amherst, "	2 00
John M. Smith, Sunderland, sow with pigs,	5 00
E. N. Smith, " "	3 00
E. B. Lovett, "	2 00
E. N. Smith, weaned pigs,	5 00
Edmund Smith, Hadley, sow and weaned pigs, gratuity,	3 00

CLASS 12—SHEEP. 18 ENTRIES.

Thomas Reed, Amherst, Cotswold buck,	5 00
John A. Morton, Hadley, Southdown buck,	5 00
James Comins, " "	3 00
Austin Eastman, Amherst, "	2 00
P. D. Hubbard, Sunderland, ewes,	5 00
James Comins, "	4 00
Thomas Reed, "	3 00
John A. Morton, lambs,	3 00
James Comins, "	2 00

CLASS 13—POULTRY. 67 ENTRIES.

L. V. B. Cook, Belchertown, pair of turkeys,	3 00
Austin Eastman, Amherst, " "	2 00
Samuel Hastings, " pair of ducks,	2 00
A. R. Owen, Belchertown, pair of geese,	2 00

H. C. Nash, Jr.,	Amherst,	pair of pigeons,	2 00
George T. Dewey,	"	" "	1 00
L. W. Allen,	"	cock, and two or more hens,	4 00
A. B. Howard,	Belchertown,	" "	3 00
W. C. Owen,	"	" "	2 00
Samuel Hastings,		" "	1 00

Class 14—Mechanic Arts and Farm Implements. 51 Entries.

A. G. Mosman,	Amherst,	bronze lamp and vases,	$1 00
T. W. Sloan,	"	boots and shoes,	2 00
L. H. Allen,	"	wire goods,	1 00
C. O. Parmenter,	"	Weed sewing machine,	4 00
M. M. Marsh & Son,		furniture, &c.,	2 00
W. W. Hunt,	"	stoves, plumbing goods, &c.,	7 00
M. N. Spear,	"	wall paper, curtains, shades, &c., dip. &	2 00
Dickinson & Lee,	"	stoves, Diploma and	2 00
Young Brothers,	"	furniture, &c., "	1 00
J. W. Hobart,	"	horse rake,	2 00
George F. Hobart,	"	wheel jack,	1 00
H. L. Watts,	"	safety whiffletree & hold-back, dip. &	2 00
Nathan Olney,	"	cart clevies, diploma and	1 00
S. R. Bell,	Hadley,	drain pipe,	diploma.
Thomas Winn,	"	horse carts,	2 00
C. W. Jones,	Pelham,	end wrenches,	1 00
James H. Morley,	Northampton,	Flor. sewing mach., dip. &	2 00
G. T. Peckham,	Providence, R. I.,	fountain pump,	1 00
Robert Carter,	Haydenville,	light buggy,	3 00
E. H. Marsh,	Montague,	brackets, &c.,	2 00

Class 15—Domestic and other Manufactures. 31 Entries.

Clara E. Hastings,	Amherst,	bed-spread,	1 00
Eliza B. Clifford,	"	rug,	75
Mrs. B. U. Dickinson,	"	hose,	75
Mrs. M. Squares,	"	rug,	50
Mrs. Sanford Boice,	"	bed spread,	50
Lucy Boice,	"	quilt,	50
Ada Lentell,	"	rug,	50
Mrs. Mary Kellogg	"	quilt,	75

Mrs. H. M. Clifford,	Amherst,	rug,	75
Mrs. Samuel Dunlap,	"	hose,	25
Hattie Phillips,	"	bed spread,	1 00
Mrs. S. W. Whitney,	"	willow clothes basket,	50
Mrs. L. G. Burnell.	"	quilt,	37
Kittie Burnell,	"	embroidered under-garments,	1 00
Jessie Burnell,	"	" "	50
Mrs. C. S. Kenfield,	"	lace sacque,	1 00
"	"	sofa spread,	75
Mrs. C. E. Hutchinson,	"	silk bed quilt, 3,549 pieces,	1 00
"	"	cradle quilt,	25
Mrs. L. S. Kendrick,	"	log cabin quilt,	50
Mrs. H. C. Comins,	Hadley,	bed spread,	50
Mrs. R. M. Montague,	"	bed spread,	1 00
"	"	counterpane,	50
Mrs. S. W. Boutwell,	Leverett,	rag carpeting,	2 00
"	"	hand-woven shawl,	25
Mrs. A. A. Rankin,	Pelham,	rug,	38
Mrs. A. Cook,	Belchertown,	rag carpet,	2 00
Mouroe Keith,	Granby,	woodchuck robe,	2 00
Mrs. H. C. Graves,	Sunderland,	rag carpet,	1 00

Class 16—Fancy Articles. 111 Entries.

Miriam M. Tucker,	Amherst,	crayon drawings,	50
Nellie L. Bassett,	"	"	50
Almera Shaw,	"	blanket, tidy & wax-work,	1 00
Lucy Fish,	"	wax flowers, &c.,	50
Frank Deuel,	"	moss cross,	25
Lucy Boice,	"	cushion, motto, &c.,	25
Anna Gates,	"	mats,	25
Mrs. Austin Eastman,	"	tidy,	25
Carrie Eastman,	"	tidy and ink spatterings,	50
Nettie Ball,	"	motto,	25
Issie Ball,	"	cross,	25
Mrs. James Crosier,	"	oil paintings,	1 00
Mrs. J. W. Allen,	"	ottoman and mat,	50
Mrs. Levi Stockbridge,	"	tidies,	75
Mrs. Henry M. Clifford,	"	oil painting,	25

Mrs. Samuel Dunlap,	Amherst,	chair stripe,	50
M. N. Spear,	"	fancy goods, stationery, &c.,	1 50
Amelia L. Pierce,	"	toilet set,	50
Gracie Phillips,	"	fancy basket,	25
Minnie L. Ball,	"	lamp mats,	25
Mrs. Wm. Conkey,	"	ottoman cover,	50
Mrs. C. H. Kellogg,	"	toilet cushion,	25
Mrs. J. F. Gilbert,	"	tidy, cushion, &c.,	50
Jennie Peacock,	"	turkish work,	25
Mrs. Stetson Hawley,	"	worsted wreath,	25
Mrs. Simon Whitney,	"	tidy, ottoman, &c.,	25
Mrs. L. G. Burnell,	"	tidies,	25
Jessie Burnell,	"	cake doiley,	25
Mrs. P. E. Irish,	"	rustic stand,	25
Julia M. Lee,	"	tidy, basket & worsted flowers,	75
Mrs. Edmund Hastings,	"	motto,	25
Emma A. Hastings,	"	"	20
Mrs. C. S. Kenfield,	"	tidies,	50
Mary P. Gaylord,	"	tatting,	25
Mrs. L. S. Kendrick,	"	worsted work & sofa pillow,	1 25
Hettie D. Cowles,	"	tidies,	25
Mrs. H. C. Comins,	Hadley,	hose, mittens, mats, tidies, &c.,	1 75
Willie H. Comins,	"	ink spatterings, &c.,	1 25
Mrs. R. M. Montague,	"	ottoman,	25
Mrs. P. D. Hubbard,	Sunderland,	tidies, bracket, scrap-bag, &c.,	50
Mrs. G. L. Cooley,	"	lamp mat,	25
Mrs. C. A. Graves,	"	tidies,	25
Mrs. N. A. Smith,	"	toilet cushion, &c.,	20
Mrs. Albert Hobart,	"	ottoman and tidy,	50
Mrs. H. D. Graves,	"	worsted work,	50
Mrs. R. Dickinson,	"	bracket, shawl, tidy,	75
Mrs. L. M. Babbitt,	Fitchburg,	hair goods,	1 00
C. W. Jones,	Pelham,	fancy boxes,	25
Mrs. Rufus Thayer,	Leverett,	tidies, cushions, mat,	50

Class 17—Display of Domestic and other Manufactures and Fancy Articles. 2 Entries.

M. N. Spear,	8 00
Saxton & Burnell,	5 00

Class 18—Bread. 27 Entries.

Mrs. George L. Cooley, Sunderland,	wheat bread,	2 00
Mrs. K. A. Despeaux, Amherst,	"	1 00
Mrs. P. D. Hubbard, Sunderland,	"	50
Amy S. Dickinson, Amherst,	" gratuity,	25
Jessie Burnell, "	" "	25
Mrs. P. D. Hubbard, Sunderland,	rye bread,	2 00
Mrs. Chester Cowles, Amherst,	"	1 00
Mrs. Joseph Dickinson, "	"	50
" "	rye & Indian bread,	2 00
Mrs. Chester Cowles, "	"	1 00
Mrs. S. W. Boutwell, Leverett,	"	50
Mrs. George L. Cooley,	graham bread,	2 00
Mrs. S. W. Boutwell,	"	1 00

Class 19—Butter and Cheese. 10 Entries.

Mrs. Wm. Gaylord, Amherst,	butter,	4 00
Mrs. M. L. Hubbard, Sunderland,	"	3 00
Mrs. Joseph Dickinson, Amherst,	"	2 00
Mrs. O. S. Longley, "	"	1 00
F. B. Paige, Prescott,	cheese,	4 00
Prescott cheese factory, Prescott,	"	3 00
Mrs. Isaac King, Amherst,	"	2 00
" "	sage cheese,	1 00

Class 20—Honey, Wines, Jellies, Canned and Dried Fruits, Pickles, Maple Sugar and Syrup. 25 Entries.

Mrs. Chester Cowles,	Amherst,	50
Mr. E. J. Wheaton,	"	50
Mrs. Austin Eastman,	"	50
Mrs. Stetson Hawley,	"	25
Mrs. John Wiley,	"	35
Mrs. K. A. Despeaux,	"	37
Miss D. F. Wiley,	"	50
Mrs. C. S. Kenfield,	"	25
Mrs. H. C. Comins,	Hadley,	3 25
Mrs. D. A. Horton,	"	2 50

Mrs. S. W. Boutwell,	Leverett,	25
Mrs. P. D. Hubbard,	Sunderland,	1 00
Mrs. George L. Cooley	"	50
George L. Gates,	Pelham,	25
J. E. Lloyd,	Syracuse, N. Y.,	1 00

Class 21—Fruits. 49 Entries.

E. H. Judd, South Hadley,	miscellaneous fruits,	4 00
W. L. Warner, Sunderland,	"	2 00
F. B. Paige, Prescott,	"	2 00
H. C. Comins, Hadley,	"	1 00
F. B. Paige,	basket of assorted fruit,	3 00
Willie H. Comins, Hadley,	"	2 00
Carrie Eastman, Amherst,	"	1 00
Willie H. Comins,	pyramid, gratuity,	50
W. L. Warner,	collection of apples,	4 00
F. B. Paige,	"	3 00
E. H. Judd,	"	2 00
J. P. Gray, Amherst,	"	1 00
E. H. Judd,	collection of pears,	4 00
A. B. Howard, Belchertown,	"	3 00
F. B. Paige,	"	2 00
N. A. Smith, Sunderland,	"	1 00
W. L. Warner,	collection of grapes,	4 00
F. B. Paige,	"	3 00
E. H. Judd,	"	2 00
U. Bisbee, Sunderland,	"	1 00
Chester Cowles, Amherst,	collection of quinces,	2 00
James B. Roberts, "	"	1 00
E. H. Judd,	collection of peaches,	1 00
Geo. L. Batchelder, Sunderland,	"	50
F. B. Paige,	collection of crab-apples,	1 00
E. A. King, Amherst,	"	50
A. A. Rankin, Pelham,	collection of cranberries,	1 00
F. B. Paige,	"	50

Class 22—Vegetables, Seeds, Grains and Roots. 103 Entries.

H. C. Comins, Hadley,	collection of vegetables,	3 00

C. S. Smith, Amherst, largest variety of potatoes,		2 00
Ashael Gates, Pelham,	"	1 00
N. A. Smith, Sunderland, best peck of potatoes,		2 00
C. S. Smith,	"	1 00
Austin Eastman, Amherst, "	onions,	2 00
D. A. Horton, Hadley,	"	1 00
E. P. Hibbard, "	best twelve carrots,	1 00
C. S. Smith,	"	50
C. W. Adams, Hadley, "	parsnips,	1 00
L. W. Goodell, Belchertown, "	"	50
H. C. Comins, "	flat turnips,	1 00
James Comins, Hadley, "	ruta bagas,	1 00
N. A. Smith, "	beets,	1 00
James B. Roberts, Amherst, "	beets,	50
William Eastman, Amherst, "	tomatoes,	1 00
C. W. Adams,	best collection of beans,	1 00
"	best peck of beans,	1 00
E. P. Hibbard,	"	50
William Eastman,	best six winter squashes,	1 00
D. A. Horton,	best six cabbages,	2 00
F. B. Paige, Prescott,	"	1 00
James Comins,	best six pumpkins,	2 00
Asahel Gates,	"	1 00
Homer L. Cowles, Hadley,	best 12 ears sweet corn,	2 00
W. L. Warner, Sunderland,	"	1 00
N. A. Smith,	best trace of seed corn,	2 00
E. P. Hibbard,	"	1 00
"	winter wheat,	2 00
C. W. Adams,	"	1 00
"	spring wheat,	2 00
James Comins,	"	1 00
Daniel Cowles, Hadley,	rye,	2 00
P. D. Hubbard, Sunderland,	"	1 00
James Comins,	oats,	2 00
Asahel Gates,	"	1 00
L. W. Goodell,	collection of flower and vegetable seeds,	2 00
Mrs. S. W. Boutwell,	"	1 00
H. C. Comins,	sweet potatoes, gratuity,	1 00

F. B. Paige,		cucumber,	gratuity,	25
A. W. Phillips,	Amherst,	pop corn,	"	50
"	"	red peppers,	"	50
John Wiley,	"	citrons,	"	25
"	"	squashes,	"	50
Fannie Cowles,	"	flax,	"	25
Ralph N. Horton,	Hadley,	50 pumpkins from one vine,	"	1 00
U. Bisbee,	Sunderland,	watermelons,		1 00
A. P. Russell,		squash,		2 00

Class 23—Flowers. 26 Entries.

Mrs. S. W. Boutwell,	Leverett,	collection of flowers,	5 00
L. W. Goodell,	Belchertown,	"	3 00
Mrs. J. P. Gray,	Amherst,	"	2 00
A. B. Howard,	Belchertown,	"	1 00
L. W. Goodell,		asters,	2 00
Mrs. S. W. Boutwell,		"	1 00
A. B. Howard,		dahlias,	2 00
Mrs. S. W. Boutwell,		"	1 00
Mrs. J. P. Gray,		verbenas,	2 00
A. B. Howard,		"	1 00
Mrs. J. P. Gray,		gladiolas,	2 00
Mrs. S. W. Boutwell,		wild flowers,	2 00
Geo. L. Batchelder,	Sunderland,	evergreen trees and flowering shrubs, gratuity,	3 00

Class 24—Stallions. 3 Entries.

H. A. Longley,	Northampton,	8 00
F. S. Hager,	Greenfield,	5 00
F. M. Dodge,	Palmer,	3 00

Class 25—Breeding Mares with Sucking Colts. 8 Entries.

Monroe Keith,	Granby,	5 00
Charles A. Hyde,	Amherst,	4 00
Nathan Smith,	Greenfield,	2 00

Class 26—Colts and Fillies. 12 Entries.

Alden Graves,	Sunderland,	3 year old colt,	3 00

Guilford Bridgman, Amherst,	3 year old colt,	2 00
F. H. Williams, Sunderland,	2 "	3 00
John Lynch, Hadley,	2 "	2 00
B. P. Searle, Belchertown,	1 "	3 00
Edmund Smith, Hadley,	1 "	2 00

Class 27—Farm Horses. 11 Entries.

Charles S. Davis, Amherst,	pair,	6 00
Edmund Smith, Hadley,	"	5 00
J. G. Ward, Pelham,	"	4 00
Willie H. Comins, Hadley,	single,	4 00
S. H. Curtis, Amherst,	"	3 00
John M. Smith, Sunderland,	"	2 00

Class 28—Carriage Horses. 20 Entries.

J. E. Porter, Hatfield,	pair,	6 00
S. W. Whitney, Amherst,	"	5 00
A. J. Robinson, "	"	4 00
C. W. Dana, "	"	3 00
F. M. Dodge, Palmer,	single,	5 00
D. S. Simonds, Greenfield,	"	4 00
R. M. Montagué, Hadley,	"	3 00
Thaxter Shaw, Montague,	"	2 00

Class 29—Roadsters. 6 Entries.

L. S. Dyer, Hatfield,	8 00
H. B. Cook, Montague,	5 00
F. M. Dodge, Palmer,	3 00
C. M. Lemon, Amherst,	2 00

Class 30—Jacks and Mules. 1 Entry.

Thaddeus Smith, Hadley, pair,	3 00

Analysis of Premiums and Gratuities Awarded.

Amount awarded for		Neat Stock,	$206 08
"	"	Horses,	119 00
"	"	Sheep,	32 00
"	"	Swine,	28 00
"	"	Poultry,	22 00
"	"	Grain and Root Crops,	39 00
"	"	Cranberries,	1 50
"	"	Fruits,	66 50
"	"	Flowers,	27 00
"	"	Other cultivated Crops,	19 25
"	"	Butter,	10 00
"	"	Cheese,	10 00
"	"	Preserved Fruits, &c.,	11 97
"	"	Bread,	14 00
"	"	Mechanic Arts and Farm Implements,	39 00
"	"	Domestic Manufactures, &c.,	35 75
"	"	Fancy Articles,	24 15
		Total Amount awarded,	$705 20

DISTRIBUTION OF PREMIUMS.

NAMES OF TOWNS RECEIVING PREMIUMS AND GRATUITIES, AND AMOUNT PAID TO EACH.

NAME OF TOWN.	NO. OF ENTRIES.	AMOUNT PAID.
Amherst,	408	$235 62
Hadley,	90	117 50
Sunderland,	74	75 45
South Hadley,	22	61 00
Belchertown,	39	43 50
Leverett,	26	34 50
Prescott,	18	22 75
Pelham,	17	20 88
Granby,	7	14 00
Hatfield,	2	14 00
Palmer,	9	11 00
Greenfield,	5	11 00
Northampton,	4	10 00
Montague,	9	9 00
Enfield,	1	3 00
Shutesbury,	1	3 00
Haydenville,	1	3 00
Fitchburg,	1	1 00
Syracuse, N. Y.,	1	1 00
Providence, R. I.,	1	1 00
Holyoke,	4	
New Salem,	3	
Springfield,	2	
Ware,	1	
Whately,	1	
Orange,	1	
South Deerfield,	1	

Number of towns, 27.
Whole number of entries, 749
Total amount premiums paid, $692 20
Number of persons to whom premiums and gratuities were paid, 254
Number of premiums and gratuities paid, 396

TREASURER'S REPORT.

J. L. SKINNER, Treasurer, in Account with Hampshire Agricultural Society.

1874.	Dr.
To balance on hand, Report of 1873,	$427 07
" cash received of State Treasurer,	600 00
" cash received of life members,	42 50
" cash received for entrance fees and admission,	839 34
" donations to the Society,	102 64
	$2,011 55

1874.	Cr.
By cash paid for Premiums,	$902 20
" " Printing and advertising for 1873,	59 00
" " Interest,	94 90
" " on note at Savings Bank,	200 00
" " Special premiums,	250 00
" " Labor, repairs, and incidental expenses,	135 21
" " Books, stationery, postage, express, &c.,	19 11
" " Printing and advertising for 1874, including the Annual Report,	120 73
" " Band,	50 00
" " W. F. Gunn, for dinners,	51 00
" " Amherst House bill,	18 00
" " Secretary and Treasurer,	75 00
Total expenditures	$1,765 15
Cash on hand,	246 40
	$2,011 55

I have examined the foregoing account, with vouchers for the same, and find it correct.

O. G. COUCH, Auditor.

STATEMENT.

SHOWING THE CONDITION OF THE SOCIETY.

Notes at Amherst Savings Bank,			$1,200 00
Cash on hand.		$246 40	
Bills that must be paid before the next annual Fair:			
Interest due Jan. 1st, 1875,	$43 80		
" " July " "	43 80		
M. A. C. Scholarship due July, 1875,	50 00	$137 60	
Cash in the treasury at the next annual Fair, provided nothing is paid for repairs or incidental expenses in the meantime,			$108 80
			$1091 20

NEW MEMBERS.—1874.

L. W. Allen, Amherst.
Whitney L. Warner, Sunderland.
Louis H. Warner, "
S. N. Miller, South Hadley.
Miss E. S. Eastman, "
A. P. Russell, Hadley.
J. E. Porter, Hatfield.
F. S. Hager, Greenfield.
F. M. Dodge, Palmer.

The following named persons have been reported to the Secretary as members of the Society, but whose names have been omitted from the published list:

Mrs. L. S. Nash, Amherst.
Mrs. Wm. Gaylord, "